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AN ADDRESS

DELIVERED BEFORE THE AGRICULTURAL SOCIETY OF FRANKLIN COUNTY, MASSACHUSETTS, OCT. 7, 1853,

BY DANIEL LEE, M. D.

Mr. President and Gentlemen:—You cultivate the soil in Massachusetts; I cultivate it in the District of Columbia; and as one farmer talks to another, so shall I speak to you on the present occasion.

It has given me great pleasure, Mr. President, to witness your exhibition of neat stock, particularly the long lines of well-matched, well-trained working oxen. New England farmers have long excelled in the production of these useful animals; while your horses show by their action, spirit, and muscular development, that the breeding, rearing, and breaking to the harness and saddle of this favorite quadruped, are pretty well understood in Fr nklin county. In skillful hands, nothing pays better than the production of first rate horses; for the demand for them considerably exceeds the supply, and it is likely to do so for many years to come. At the last United States census, the six New England States contained 212,274 horses. The State of New York contained 447,014; being something more than twice the number in the first-named States.

You exhibited some excellent milch cows. The dairy business is now more profitable than I have known it for thirty years. It is, however, a branch of husbandry not generally well understood, and therefore one that is susceptible of much improvement in all parts of our extended country. New England farmers reported at the last census 618,237 cows; while the farmers of New York reported 931,324. These figures, copied from official sources, show that New York contains fifty per cent. more cows than New England; while the acres of improved land in each are: New England, 11,140,564; New York, 12,408,968.

Sheep husbandry and wool growing are, apparently, on the decline here, as well as in the valley of the Genesee. This whole State contained only 188,651 sheep in June, 1850; while in 1845, the two counties of Monroe and Livingston, in Western New York, contained 392,210. In 1850, these counties had reduced their flocks to 259,143; and to indicate the rapid decline of this branch of rural industry in five years, I will remark that New York contained 6,443,855 sheep in 1845, and only 3,453,251 in 1850—decrease, 2,990,614. This is a greater falling off in five years than the whole number of sheep kept in New England; which was in 1850, 2,163,453.

In studying the agricultural statistics of Massachusetts and other States with some care, as I have done, I have been most surprised at the small number of swine which you keep. This State had but 81,119 in 1850; and all New England but 361,463. In 1845, New York had 1,584,344; or more than four times as many as the six New

England States. But swine culture, like sheep husbandry, has also declined; so that New York contained fewer hogs in 1850 than it did in 1845, by 566,092. The reason why we can not keep so many hogs, nor so many sheep, nor cattle, nor dairy cows, nor horses, now, as we did eight years ago, in the State of New York, although we have 1,000,000 acres more under improvement, *is our bad system of tillage and husbandry*, by which the land is sadly impoverished. I do not say that every farm in New York parts with more of the elements of grass and grain than it can lose without deterioration; for I hope that one-fifth, perhaps one-fourth, of the farmers in that large and populous State, so cultivate their land as to increase rather than diminish its fruitfulness. Full three-fourths, I am sorry to say, make no adequate restitution to their plowed fields, meadows, and pastures, for the constituents of plants removed therefrom. With a higher price and surer sale for all the good horses they can rear; with a million more acres of improved land on which to keep them; with fewer sheep by 3,000,000, and fewer swine by 600,000; with fewer neat cattle by 200,000; and less land devoted to the culture of potatoes, flax, and other crops; is it not a significant and monitory fact, that New York farmers have found it necessary to rear and keep fewer horses by 100,000 than they did eight years ago?

These statistics are derived, primarily, from our whole rural population, and no one questions their general accuracy.

The agricultural statistics of Massachusetts are not less condemnatory of your treatment of the soil. Allow me to appeal to your official records for additional evidence on this point. Your State Board of Agriculture unanimously adopted the following resolution:

Resolved, That the necessity for this improvement (agricultural education), is apparent from the report of the valuation committee to the last legislature, by which it will be seen that, although there have been added to the lands under improvement since 1840, more than three hundred thousand acres, and although the upland and other mowing lands have been increased more than ninety thousand acres, or nearly fifteen per cent., yet the hay crops have been increased only about three per cent., showing a relative depreciation of *twelve per cent.*; and although the tillage lands have been increased more than forty thousand acres in the same period, yet there has been *no increase of grain crops*, but an absolute falling off of more than *six hundred thousand bushels*; and although the pasturage lands have been increased more than one hundred thousand acres, yet there has been scarcely any augmentation of neat cattle, while in sheep there has been a reduction of more than one hundred and sixty thousand, and in swine of more than seventeen thousand.

I have long believed, and earnestly contended, that our present means and facilities for acquiring a timely and thorough knowledge of the true principles of agriculture are inefficient—are nearly worthless, without additions thereto. Advantages of a more instructive and practical character are not only needed, but absolutely indispensable to enable us to learn the rudiments of our profession. In producing a bushel of grain, or one hundred pounds of hay, we take something from the soil. Our common sense and long experience teach us this; but have they ever taught us how much of the substance of the earth is consumed in forming a bushel of corn, or wheat, or one hundred pounds of hay? So far as grass, grain, or root crops draw their aliment from water and the atmosphere, no restitution to the land from which we remove agricultural plants is necessary. This is an important fact, and leads at once to the inquiry, What elements of fertility, and how much of each does a fair crop of corn or wheat take from an acre of ground? Wholly irrespective of all crops, does not tillage, the frequent stirring of vegetable mold by the plow, harrow, cultivator, or hoe, operate to consume said mold, and dissipate its atoms in the air, just as the frequent turning of a compost heap diminishes its bulk, consumes its substance, and fills the atmosphere with offensive gases? When the fertile prairies of Illinois are first broken up, and their virgin mold rots in the sun, an increase of sickness marks the increase of malaria, or pestiferous organic atoms in the atmosphere. While tillage may consume and discharge into the air all the volatile constituents of our crops, whether they grow or not, who can say

that frequent washing rains and melting snow, may not dissolve every mineral atom available in plowed and hoed earth as food for plants, and convey it into ditches, swamps, creeks, springs, wells, and rivers? Of all the myriads of species of animals on the globe, man alone impoverishes the ground; and he alone cultivates it. If this cultivation be unwisely performed, the soil's natural fruitfulness will be consumed and wasted as certainly as fire will consume dry stubble when kindled into a blaze. Everything turns on the pivot of wise or unwise cultivation. In order to practice the one and avoid the other, we are required to solve this problem: How can a farmer grow large and remunerative crops with the least injury to the land, and the smallest outlay for manure? Before this problem can be fairly solved, one needs a critical knowledge of the vital force in all seeds sown or planted; and also a knowledge of the various atoms imbibed and organized in living, growing germs, by which they increase in weight and substance, and finally reach full and perfect maturity, with ample provision for the next generation of living plants. Nor is it enough to be able to measure with accuracy the vital force of different seeds, and understand the elements of the food of all agricultural beings, whether vegetable or animal. Every atom of this food, and every living cell and tissue, no matter how organized, is subjected at all times to unbending and never ending natural laws.

Before we, as practical farmers, can deal wisely with the things that really form our meat, butter, cheese, wool, fruit, grain, and vegetables, it is indispensable that we study those fixed laws which GOD established to govern the minerals in our soils, and the increase and decrease of mold and fertility on the surface of the earth. Were I called upon to write an agricultural catechism, law and order in farming, based, not on the doubtful precepts of man, but the laws of his Creator would be the first words to be committed to memory, and the first principles to be mastered by the pupil. As a plain, working cultivator of the soil, I believe in the systematic study of all the substances and forces, whether vital or physical, with which we have to do; but outside of and beyond all these, I recognise a law which binds the mineral to the vegetable kingdom, the vegetable to the animal kingdom, and the animal to both of the others, in a way that makes a knowledge of this law the most important and useful element in a farmer's education. Those atoms which you toil so long and anxiously to make appear in the form and condition which you see them in this ear of corn, this potato, and this apple [the speaker showing them], bear peculiar relations to each other as the representatives of the three great kingdoms of Nature. Although the seeds of this maize contain only about one per cent. of incombustible earthy matter, and the potato and apple not far from the same quantity, yet there is abundant reason to believe that not only our crops depend, in a good degree, on the presence of these incombustible atoms in a soluble state, in the soil, but the agricultural value of its mold is governed by the presence or absence of the same earthy atoms. It is the relations that parent rocks bear to soils, and the plants that naturally grow thereon, as well as the relations which subsist between sunshine, solar heat, frost, atmospheric gases, rain, and dew, and all agricultural plants and animals, that limit the rewards of rural industry. Increase your knowledge of these relations, for nothing is easier than to study them, and the return for your labor and capital will increase in the same ratio.

Suppose you were to look over the 125,000,000 acres of improved land in the United States and find the 500,000 acres which, according to the last census, produce the most value in crops; in what part of the republic, think you, they would be found? Not in Massachusetts, nor in New England—not in the neighborhood of any great city, nor in any of the southern or western States; but in Western New York and the Valley of the Genesee. In 1850, the farmers of the six New England States reported to the Marshals that they raised 1,080,874 bushels of wheat. The few farmers of Monroe county in which I reside, reported, at the same census, 1,441,653 bushels as their last crop,

being over 400,000 bushels more than was grown in all New England. Now, the climate of the Genesee valley differs but little from that of the Connecticut valley; the annual fall of rain is about the same in both regions, and the atmosphere, with all its aliment for wheat plants, is probably as favorable in one valley as the other; while wheat in New England has been worth, on an average, some fifty per cent. more for the last ten years than in Western New York. With such powerful inducements to grow wheat in New England, how does it happen that a county 360 miles west of you, which now annually produces a million bushels of corn, a half million bushels of oats, 120,000 bushels of barley, 500,000 bushels of potatoes, 300,000 pounds of wool, 65,000 tons of hay, not to name dairy products, pork, fruit, peas, beans, and vegetables, grows also a third more wheat than Vermont, New Hampshire, Maine, Massachusetts, Connecticut, and Rhode Island put together? There is a law that governs this matter, not written in any of your statute books—not taught nor studied in one New England school, which is sadly overlooked by all our agricultural societies—a law that must, nevertheless, be generally understood before American agriculture can rise to be anything more than a mere empirical art. If New England farmers say in their hearts, "We will not cultivate agricultural science," tell me candidly, whether they may reasonably expect the fruits of this science?

Whatever you may say on this subject, I feel it to be my duty to tell you, as I do all others, that American planting at the South, and American farming at the North, are the most destructive to the land under cultivation of any that can be found in the wide world. Americans do not see this, simply because they refuse to study their agricultural statistics, and compare them carefully with the statistics of other nations. Having a whole continent to desolate by taking every thing out of the soil that can by any possibility form cotton, tobacco, grain, and provisions, which Nature placed there, our people never stop to consider the fact that the best soils rarely contain more than one part in a thousand of the atoms that make their daily bread. After these shall have been removed in grass, grain, cotton, tobacco, wool, and the flesh of animals, and thoughtlessly wasted in cities and elsewhere, is it not obvious that general sterility will prevail over the face of the republic? Now, it contains a fair supply of the raw material for making human food and raiment; but the fact is not to be disguised that we employ five million laborers, and five thousand million dollars capital in the great work of taking from the virgin lands of the United States their elements of fertility, and sending them to distant or home markets, regardless of the interest which the next and all succeeding generations have in the enduring fruitfulness of the earth. We say that posterity has done nothing for us, and therefore we are under no obligation to those that come after us. This is false reasoning; for posterity may properly expect that every generation shall leave the earth, which is to feed all and clothe all, as rich in the elements of grain and other crops as they found it. What harm have persons yet unborn done to the twenty-five millions now in the United States, that we should impoverish one acre of ground to their obvious injury, seeing that in twenty-five years fifty millions of people will need twice as much of the fruits of the earth as we now do in the States where we reside? Conceding that we may innocently do all we can to consume and waste the few precious atoms at and near the surface of the ground which render it productive, are we under no obligation to establish institutions designed to teach our children and grand-children a better system of tillage and husbandry than that which impoverishes four-fifths of the soil now under the plow? If we find it somewhat difficult to command a full supply of manure with all our present large resources, how are succeeding generations to meet their vastly larger wants from the same area, after the land has parted with all the raw material of crops on which we now draw so liberally for our annual harvests? Will not their difficulties be ten-fold greater than our's, unless their superior knowledge shall give them the command of agricultural

resources wholly unknown to the farmers of our time? Having an excellent market at your very doors for all that your best skill and industry can produce, you seem to have the strongest incentives to improve your farms, and double their products. To do this in the most economical way, allow me to suggest that you ought to study the latent powers of naturally poor soils for the cheap production of grass and grain. Suppose I were to investigate a fair sample of the arated soil of this county, and compare it with the soil in Western New York which produces the largest crops grown in the United States. What, think you, would be the essential difference between the two? It may be presumptious in me to hazard an opinion on so important a question, on general principles, without a special examination of the land in this region. But you have the old red sand-stone here precisely as it is found in the District of Columbia; you have soft water here as it is there, and your land here, as it is there, is better adapted to corn than wheat. During the last six years I have had ample opportunities for the critical study of the free-stone and granitic soils of the South, as I had previously to investigate the lime-stone soils of Western New York. When rain water passes through the latter and appears in wells and springs, it is uniformly charged with salts of lime and magnesia, and rarely fails to contain *salts* of soda and potash in sensible quantities. Take a gallon of your well water and evaporate it to dryness, and it will not often yield more than a half grain of the carbonate of lime; while a gallon of the well water of Monroe county on our best wheat soils contains fifteen grains of carbonate of lime, and ten grains of the sulphate, or gypsum. It also contains from five to ten grains of Epsom salts, or sulphate of magnesia; several grains of common salt, particularly on the Onondaga salt group, which extend from Madison county through Onondaga, Cayuga, Wayne, Monroe, Orleans, and Niagara into Canada. It is the various salts which abound in the rocks of Western New York that impart to its soil unequaled agricultural capabilities; and yet, I have analysed more than a hundred samples of the richest farming lands in that region, and never found over two per cent. of lime in any soil. When you see 100 pounds of gypsum applied to an acre, add a ton of clover hay to the crop, although this salt of lime applied as a fertilizer adds only one part in twenty thousand to the soil, estimated to the depth of only ten inches, you have demonstrated the great value of a little of "the salt of the earth," where it is really needed. In a like manner, the salts of ammonia, and phosphates of lime, soda, magnesia, and potash found in guano, demonstrate in the most satisfactory manner the extraordinary power of a very little food of plants in augmenting to their growth on poor land. Under favorable circumstances, 100 pounds of Peruvian guano add from 400 to 600 pounds of merchantable shelled corn to the crop. To understand how so little manure produces so large a result, we must bear in mind that in 100 pounds of the seeds of maize there are 97 pounds of carbon and the elements of water, and only three pounds of the constituents that impart peculiar value to guano. It is not because wheat plants extract any considerable amount of lime from the soil, that limestone lands are uniformly the best for this grain. A reasonable amount of the calcareous element enables stable manure to produce more than it would without any lime in the soil. This is a curious fact, but I am unable to state the minimum quantity of the carbonate of lime that will suffice for all useful purposes. I am confident that two per cent. is the maximum quantity needed to grow wheat under the most favorable auspices; but whether one part in 100, or one in 500, or 1000, will answer equally well, I have never been able to satisfy myself. All farming lands that yield soft well and spring water need lime; and they very often lack other ingredients quite as much, which the application of lime will not supply.

To be continued.

NATIONAL HORSE EXHIBITION.

A few gentlemen of Springfield, Mass., acting on the suggestion of Mr. George M. Atwater, a citizen of that city, and in conjunction with the Hampden County Agricultural Society, took the initiatory steps last May to hold a grand National Exhibition of Horses in Springfield in October of the present year. At the request of the promoters of the enterprise, the President, the Hon. M. P. Wilder, and other officers of the United States Agricultural Society, co-operated in the same, and by their joint efforts an exhibition was gotten up which appears to have given much pleasure to all that participted in the novel festival.

We have a full report of the proceedings in the *Springfield Republican*, which is entitled to especial commendation for the well executed labor it has performed to secure the most creditable and liberal arrangements in everything undertaken by the managers of the show. The entries for competition were forty-eight breeding mares, and nine additional ones with foal at side. The Morgan horses were numerously represented.

Board of Judges on breeding mares were B. V. French, of Braintree, Mass.; W. H. Ladd, of Richmond, Ohio; Martin Gowdy, of Martinsburg, N. Y.; Wm. Pynchon, of Springfield; and Thomas Motley, Jr., of Jamaica Plains (Roxbury), Mass.

Thorough-breds.—*Board of Judges.*—Col. T. P. Andrews, U. S. A.; Joseph H. Billings, of West Roxbury, Mass.; G. A. Austin, of Vermont; and Joseph H. Godwin, of New York.

The number of thorough-bred animals was not large, but among them were several choice specimens, of which may be mentioned Lady Digby, Jenny Lind, and Young Messenger. The following is the list of entries:

No. 1. Topsey, 7 years, 16 hands, 1180 pounds, bay, raised in England, and owned by C. A. Cuthbut, Canada.

No. 2. Jehu Cricket, standard height, imported, sire unknown, dam dead, owned by amateur association in Springfield.

No. 3. Utah, 5 years, 16½ hands, 1350 pounds, dapple bay, owned by A. Hobbs, Boston, Mass.

No. 4. Bob Logic, 10 years, 15½ hands, 975 pounds, dark bay, owned by J. R. Hutchins, of Montreal, Canada.

No. 5. Lady Digby, 11 years, 15½ hands, chestnut, owned by L. James Turner, of Boston, Mass.

No. 6. Jenny Lind, 6 years, 15 hands, black, owned by A. L. Bragen, of Cornwall, Vermont.

No. 7. Lady Sussex, 6 years, 16¼ hands, 1100 pounds, bay, owned by Dr. J. G. Bunting, of Lewis county, N. Y.

Stallions of Seven Years Old and Upwards.—Under this head there were 56 entries, and remarks too voluminous for our limited space.

Ponies.—Twenty-one ponies were entered, and some discussion was had as to "what constitutes *a pony*."

Matched Horses.—*Board of Judges.*—Chauncey P. Holcomb, of Newcastle, Del.; J. D. Weston, of Washington, D. C.; Joseph Warton, of Albany; Edward Harris, of Morristown, N. J.; and Horatio Sargeant, of Springfield.

There were 33 entries of matched horses.

Colts, including Stallions, Three Years Old and under.—Under this head 17 three years old stallions, 5 two years old, and 7 one year old were entered. Only two fillies of three years old, and one of one year old, were entered.

Board of Judges.—Dr. E. Holmes, of Maine; Sheldon P. Leavitt, of New York; George D. Wheeler, of Deposit, N. Y.; and J. W. Proctor, of Massachusetts.

FANCY MATCHED HORSES came on at 12 o'clock, and the following was the *Board of Judges.*—Ex-Gov. ANTHONY COLBY, of New Hampshire; Dr. MEADE, of Providence, R. I.; HENRY FULLER, of Springfield; CHARLES H. CHILDS, of Georgia; GEORGE J. POMPELLY, of Oswego, N. Y.; and BENJAMIN WHEELER, of Danvers, Mass.

Sixteen pairs were entered for premiums, and several others were exhibited.

STALLIONS FROM FOUR TO SEVEN YEARS OLD.—*Board of Judges.*—MOSES NEWELL, of West Newbury, Mass.; JAMES M. WAYNE, of Georgia, Judge of U. S. Supreme Court; BENJ. THURSTON, of Lowell, Mass.; WARDEN DELANO, Jr., of New York; JAS. DEWOLF PERRY, of Bristol, R. I.

In this department the exhibition was fine, and there were 33 entries.

GELDINGS.—*Board of Judges.*—WM. S. KING, of Boston, Mass.; JOHN S. WALKER, of New Hampshire; J. S. F. HUDDLESTON, of Mass.; ALBERT S. GALLUP, of Rhode Island.

The entries under this head appear to have been more numerous than any other, being 109.

Few, if any, of the best horses were sold, and such as were fetched prices far below what is paid for premium neat cattle.

The following premiums were awarded:

STALLIONS OF SEVEN YEARS AND OLDER.—First premium, of $200, to "Cassius M. Clay," owned by J. H. Goodwin, of New York.

Second Premium, of $100, to Morrill horse, owned by F. Morrill, of Danville, Vt.

Third premium, of $50, to "Bush Messenger," owned by Hiram Reed, of Augusta, Me.

Fourth premium, of $25, to "Black Morgan," owned by Francis Twichell, Jr., of Petersham, Mass.

THOROUGH-BRED HORSES.—*Stallions.*—First and only premium, of $100, to "Bob Logic," owned by J. R. Hutchins, of Montreal, Canada.

Brood Mares.—First premium, of $100, to "Lady Digby," owned by James Turner, of Boston.

Second premium, of $50, to "Lady Sussex," owned by Dr. J. G. Bunting, of Lewis county, N. Y.

Third premium, of $25, to "Jenny Lind," owned by A. L. Bingham, of West Cornwall, Vt.

GELDINGS OF FOUR YEARS AND OVER.—First premium, of $100, to Ebenezer Flagg, of Worcester.

Second Premium, of $50, to A. F. Smith, of New England Village, Mass.

Third premium, of $25, to Francis Twichell, Jr., of Petersham, Mass.

Fourth premium, of $20, to George R. Wesson, of Worcester.

MATCHED HORSES.—First premium, of $100, to Lewis Gale, of Barre, Vt.

Second premium, of $50, to L. B. Chapman, of Windsor Locks, Conn.

Third premium, of $25, to M. H. Griffin, of Middletown, Conn., for his New Jersey bred horses.

Fourth premium, of $20, to S. C. Hall, of Manchester, N. H.

Fifth (extra) premium, of $20, to T. J. Shepard, of Springfield, Mass., for his Genesee county horses.

STALLIONS OF FOUR TO SEVEN YEARS.—First premium, of $100, to "Paul Clifford," owned by Hunsdon & Wilcox, Vermont.

Second premium, of $50, to "Flying Morgan," owned by John Chamberlain and Hiram Gibbs, of Massachusetts.

Third premium, of $25, to "Young Black Hawk," owned by F. B. Halsey, of Austerlitz, N. Y.

A gratuity of $15 to "Flying Cloud," owned by Timothy T. Jackson, of Flushing, L. I.

A gratuity of $10 to "Canadian Leopard," owned by Ira Griffin, of Massachusetts.

A gratuity of $10 to "Raven," owned by Robbins Battell, of Norwalk, Conn.

FANCY MATCHED HORSES.—First premium, of $100, to D. Sanderson, Somerville, N. J.

Second premium, of $50, to Doty & Hubbard, Montpelier, Vt.

Third premium, of $25, to Francis T. Cordis, of Longmeadow, Mass.

BREEDING MARES.—First premium, of $100, to Charles W. Sherman, of Vergennes, Vt.

Second premium, of $50, to J. F. DeWolf, of Bristol, R. I.

Third premium, of $25, to Geo. A. Kibbe, of Springfield.

Fourth premium, of $20, to Amos Pelch, of Limerick, Me.

BREEDING MARES WITH FOAL BY THEIR SIDE.—First premium, of $100, to R. S. Denny, of Clapville, Mass.

Second premium, of $50, to Judson Nichols, of Flushing, N. Y.

Third premium, of $20, to Robert Pomeroy, of Pittsfield, Mass.

COLTS.—*Stallions of Three Years Old.*—First premium, of $50, to John R. Briggs, of Cheshire, Mass.

Second premium, of $25, to Levi Cole, of Middletown, Conn.

Third premium, of $20, to Barnes Davis, of Vernon, N. Y.

FARM OR DRAUGHT HORSES.—*Pairs of Horses.*—First premium, of $50, to C. Fonda, of Clifton Park, N. Y.

Second premium, of $25, to H. S. Chapin, of Springfield.

RECENTLY DISCOVERED GUANO ISLANDS IN THE INDIAN OCEAN.—Much has been said of the recently discovered guano islands in the Indian Ocean; and farmers in England have been encouraged to believe that the price of this highly concentrated manure was about to fall, so that its cheapness would place its consumption within the reach of every cultivator of the soil. We regret to learn that the several analyses of the new guano made by Dr. ANDERSON, chemist to the Highland and Agricultural Society of Scotland, and Prof. WAY, chemist to the Royal Agricultural Society of England, do not sustain these sanguine expectations. There are before us tables giving the results of the analyses of nine samples of this lately discovered fertilizer by the chemists named, and in not one of them is there so much as two per cent. of ammonia. The highest yield was 1.87, and the lowest .77 per cent, or three-fourths of one per cent. In phosphates they are richer than the best Peruvian guano on an average; the maximum yield was 80.33 per cent.; the smallest 21.88; and the average about 60 per cent. Should this manure come into our seaports as cheaply as is expected, it will take the place of ground bones and superphosphate of lime, rather than that of the best guanoes now in use. We have the analyses of thirty two samples of Peruvian guano, in which was found an average of 17.41 per cent. of ammonia, and 24.12 of phosphate of lime. The reason why the latter contains ten times more ammonia than the other is, doubtless, because no water ever falls on the Peruvian guano, while the other is exposed to the washings of rains.

A MODEL FARM.—At Myremin, in Ayreshire, Scotland, Mr. KENNEDY feeds under cover in the summer months, 220 large oxen, 460 sheep, 20 horses, 150 store pigs, on 90 acres of Italian rye grass. Last summer his house-fed sheep fattened better than in the field, and were kept on Italian rye grass four months, at the rate of 56 head per acre! They likewise received a daily supply of steamed food. But, allowing for this, we find that on this farm each acre of grass keeps about four times as much live stock as the average of cultivated land of similar quality in England. Mr. KENNEDY has attained this high state of fertility by the use of liquid manure, distributed over the farm in pipes, and applied to the surface by the force of steam in a jet like a shower of rain. To use Mr. MECHI's graphic words, he can "increase his wet days" as he finds it necessary; and when other people's fields are parched with drouth, his are glistening with perennial verdure. Having an unfailing supply of water, he can either mix it in his manure tank with a more enriching substance, and so shower it over the land, or he can sow guano broadcast over the grass, and then wash it in dissolved; or if nothing but moisture is needed, he applies that only.

BUFFALOES.—A member of Governor STEVENS' northern route exploring party, in a long communication to the *St. Louis Republican*, written from the head of Yellow Stone, relates the following among many other "sights and incidents" of the party thus far:

On Sunday, after a march of some ten miles, the buffaloes were reached. They were before and on each side of the train. For miles ahead it seemed one vast drove yard. They were estimated by some as high as 500,000—200,000 is considered a very low estimate. Drawing up the train at our usual halt at noon, a large herd were about half a mile ahead. The hunters, six in number, were immediately despatched, well mounted on spare horses reserved for that especial purpose, and the whole train had an opportunity of witnessing a buffalo hunt. The hunters dashed in among the herd, picked out the fattest of the cows, and then separating the selected ones from the herd, soon despatched them. In less than an hour the wagons were sent but a small distance from the route to receive the choicest pieces of the buffalo.

In the next two days' march the hunters were kept some distance ahead, to keep off the buffaloes; it was the only way the safe passage of the train could be insured through this sea of flesh. The pack mules and spare animals following on in the train, too numerous to be separately led, were hard to control; and despite every precaution and care, one horse and four mules were lost, they getting mingled with a herd of buffaloes. Every effort was made to reclaim them—hours spent in their attempted recovery. The efforts were entirely useless.

SHORT-HORN BREEDERS IN ENGLAND.—We put on record the following remarks on Short-horn breeders in England, copied from the *London Agricultural Gazette* of August 27th, for future reference:

Short-horn breeders have hitherto dated from CHARLES COLLING'S sale, October 11, 1810; or from that of his brother, Mr. ROBERT COLLING'S stock, some seven years later; or much later still, perhaps from the sale at Wiseton of Lord SPENCER'S herd, on the 11th of September, 1846; or from the sale of the celebrated Kirkleavington herd, on the 9th of May, 1850. These have all been great eras in the history of the Durham breed, but none of them, it may safely be said, has exceeded in importance that which has occured in Gloucestershire. We look back upon the first of these events as on the birth-day of that more general interest which now so widely prevails in the fortunes of this undoubtedly the dominant breed of cattle in this or any other country. It was, as it were, the expiry of some patent or monopoly of immense public value, or rather the sale of it in parts to a more numerous propriatary. The results of that patient skill and perseverance exhibited for so many years by the father of Short-horn breeders, were then distributed and scattered, and become the means, in the hands of others, of extending the improvements which he had originated. The local name become lost in the more general one, and people no longer spoke of the "Teeswater," but of the "Short-horn" blood.

It is curious, however, to observe that the influence of that event still exists, and that in the disguise or diluted form in which, after the lapse of nearly half a century, one might expect to find it, but in particular instances as intense and definitely marked as on the day when it first made itself known. The high average price that was fetched by the stock at Tortworth last Wednesday, was due not merely to the number whose descent was traceable directly from Mr. CHARLES COLLING'S herd, but to the especial value placed upon a particular tribe descended from a particular animal in that herd. From Young Dutchess, one of the seven heifers then sold, there has descended a family bearing her name, in which the merits of the original, due to Mr. COLLING, have, in the hands of Mr. BATES, and latterly of Lord DUCIE, been not merely enduring, but increasing, with the lapse of time, and of course with the number of the individuals inheriting them. The original Dutchess fetched 183 guineas, 42 years ago; and now Dutchess 59 (6 years old), of the 8th generation from her, fetches 350 guineas; Dutchess 64 (4 years old), of the 7th generation, fetches 600 guineas; Dutchess 66, of the same generation (hardly 3 years old), fetches the extraordinary price of 700 guineas; Dutchess 67, of the 9th generation (15 months old), fetches 350 guineas; Dutchess 68, of the 8th generation (11 months old), fetches 300 guineas; Dutchess 69, of the 9th generation (5 months old), fetches 400 guineas; and Dutchess 70, of the 8th generation (calved about six weeks ago), fetched 310 guineas. This last was the calf of Dutchess 66, so that cow and calf fetched the altogether unparalleled sum of one thousand and ten guineas! [over $5000.] Beside these, there were offered for sale two bulls, descended from Dutchess No. 1—the Duke of Gloucester (nearly 3 years old) sold for 650 guineas; and the fourth Duke of York (nearly 7 years old) fetched 500 guineas. Excluding one cow of this family, which we have not named—as owing to some doubts whether she would breed she fetched but a low price—the nine animals descended from CHARLES COLLING'S Young Dutchess (three of them being calves) fetched the enormous sum of 4160 guineas, averaging 462 guineas a piece.

An English guinea is not far from five dollars our currency. The facts stated above are interesting, as showing the value of blood equally sustained through nine successive generations, and now more sought after than ever. Blood in Dutchesses and Dukes is often badly managed; but results prove that, under the control of such breeders as Mr. COLLING and Mr. BATES, it is as susceptible of improvement as of deterioration. There are at this time not far from twenty million head of neat cattle in the United States; and no other nation ever presented so wide and inviting a field for the full and profitable development of the art and the science of producing domestic animals of the highest possible excellence. In the FIFTEENTH VOLUME, second series, of this standard work, commencing in January, we shall discuss the principles of stock growing more thoroughly and elaborately than has ever been done in this country.

HOW TO ENRICH THE SOIL.—"If farmers would only make an agreement with their friends in town, that all the beef, mutton, butter, and eggs which they send should be duly returned, after they were done with them, for the restoration and renovation of land from which they came, they would be pursing the plan which I have adopted."

Thus spoke Mr. MECHI, in his address to the members of the Royal Northern Agricultural Society, at its recent meeting in Aberdeen. The principle advanced is not only sound, but of the highest importance to all classes of the community. To farmers,

because restitution of the fertilizing atoms removed in crops is an axiom in husbandry that no time can change. To the inhabitants of cities and villages, because the offal from human food, the food of horses and other domestic animals, kept in cities, is a most prolific source of pestilence, suffering, and premature death.

Thirty years ago, when we commenced the practice of medicine, our attention was called, professionally, to the sources of most of the maladies that afflict the residents of cities; and while bad habits, poverty, and a thousand other unhappy influences, may co-operate in deranging the human system, the contamination of the air constantly respired, and of the water daily consumed in drink and in food, by decaying vegetable and animal substances, was found to be the most common and fatal cause of sickness.

Let us now see the practical result of Mr. MECHI's principle, and we will let him state the case in his own language:

I have a field of five acres, which used to starve a couple of cows. Last year, in May, I began to work it with *liquid manure*, and continued through the winter; and now it is covered with the finest grasses. I keep ten head of cattle and three horses on it, and they never eat it down. In root crops the same result takes place.

By liquifying night-soil and guano, this enterprising farmer gets double the effect from the manure that can be obtained by applying either in a solid form. He says:

Suppose I wanted to put guano on my field: I would put it into the *tank*, agitate it by an air pump, and in a quarter of an hour you would see it pass out in a stream, going down into the subsoil to the roots of the plants. The great advantage is, that you absolutely fertilize the bottom soil, while with the plow you can not get down above two and a half feet. We put on one hundred gallons a minute all day long, and all night long; we do not even stop at dinner time. Fortunately for me, I obtained a little bog land, and there I got plenty of water that now is a great source of fertility; in fact, I would not give it for £3,000 ($15,000), because I can make a better use of it than I could of the money.

Facts like the above possess a deep interest.

A LANCASTERIAN SCHOOL.—Hon. WILLIAM C. RIVES, in his late Address at Saratoga says:

"There is no branch of human knowledge in which so much is taught by *example*, as agriculture. The practice of the best farmers, it has been well said by the leading agricultural writer of England, Mr. PUSEY, is the accumulated and varied science of ages. Acknowledging, as I do with gratitude, and in the most unreserved terms the obligations of agriculture to professional science, I must yet say that farmers are in the main the best teachers of farmers, and that through the medium of agricultural societies and agricultural journals they have been organized into a great Lancasterian school, in which the system of mutual instruction has received its highest development and most useful application."

The idea which the honorable speaker intended to convey is alike true and beautiful, but expressed in terms chosen with less care than a question of science demands. If our present "system of mutual instruction has received its highest development," then further improvement in said system is impossible. So far short of perfection is this system, as now practised, that it is but the living germ in an acorn compared with the mighty oak, whose highest development can only be consummated by the steady annual growth of centuries. Our agricultural journals are good seed sown with a liberal hand, but much of it falls on barren ground. Not one farmer in a thousand, take the whole United States together, labors to teach his brother farmers all he can, and studies cheerfully and earnestly the great book of Nature that he may be able to instruct every member of his noble profession. To enlarge and elevate this system of mutual instruction, the *Genesee Farmer* was made the first fifty cent agricultural journal in America; and it has been steadily kept at that low price to meet the economical notions of the million, while its conductors have given away about $800 worth of agricultural books a year to create a popular taste for rural literature and science throughout the country.

Friends! write for your own paper—extend its circulation and usefulness.

"FARMERS AND MANUFACTURERS."—In the last *Farmer*, under the above heading, our worthy friend, JASON SMITH, of Tyre, bespeaks more encouragement for the manufacturer, that he may be able to consume the products of the farmer, who is now dependent on a foreign market. This, I take it, is rather obsolete political economy, since the permanent prosperity and unprecedented increase of our manufacturers has already brought about the result which our friend SMITH now hopes for. It is admitted that at this time no country on the earth's surface can boast of a more successful or increasing manufacturing industry than these United States; and what is most singular, the iron interest, which Mr. SMITH adverts to—an interest that has clamored louder than any other for more protection against foreign competition—is now more prosperous, and in a greater state of progress, than any other branch of domestic industry.

Mr. SMITH's remarks on the importance of keeping young stock well fed and growing until they reach maturity, are founded on that good economy which characterizes Mr. SMITH's farming, but which is sadly neglected by farmers generally; and doubtless the tempting price offered by the distillers for their corn, is at the bottom of the evil. But every good farmer should contrive, by extra pains, in making, saving, and applying his manure, to have extra grain or other food sufficient to keep his animals well, after selling the greater portion of his cereal crop. It is true, as Mr. SMITH says, that the pork of the distillery comes in competition with that of the farmer, and reduces his profits on that article; but the distiller more than makes up for his competition in the pork market, by the increased price he pays for the farmer's corn. Last winter the farmers of Seneca and Wayne sold their very large crops of corn to the distilleries at 68¾ cents the bushel, while no produce buyer in these counties would pay over fifty cents a bushel for corn to send to the New York market. It is also true, as Mr. SMITH asserts, that the waste of manure by the distillers of Seneca county is a crying evil, and a manifest cheat upon the vegetable kingdom, which she will not fail to retaliate upon the animal creation. But these things are managed better elsewhere. At the distilleries in Oneida and Madison counties, the pens and stalls for cattle and hogs are cleaned daily, and the manure, liquid and solid, is all sold to the corn and hop growing farmers in those counties, at the rate of 25 cents a two-horse load. At the great distilleries around New York, the slop is all appropriated, and the manure returned to the hungry soil in its rural vicinity.

If it was my purpose to vindicate the distilleries, I should not attempt it now, when the mania for Maine law turns every head. But it is susceptible of proof, that the cooked slop of the distillery will fatten as many animals as the raw corn would have done before it was ground and passed through the still; and if the manure is saved and applied to the soil, nothing is lost—and I trust it will be admitted that the alcohol converted into burning fluid, and for medicinal purposes, is something gained.

Mr. SMITH refers to JOSEPH HARRIS' articles in the *Farmer*, entitled "The Farm as a Manufactory." I hope Mr. H. will continue the discussion of the subject, to show that if the "making of manure follows the making of pork, beef, mutton, butter, cheese, &c.," the product is but too often wasted to the winds, and rarely, if ever, thoroughly saved and economically applied, at least on this side of the Atlantic. S. W.

CALIFORNIA FARMING.—The following is an extract from a letter to Rev. C. WOODWARD, of this village, written by a gentleman engaged in farming, in the land of gold. It bears date San Lorenzo, September 12, 1853:

"My farming operations here this season would compare favorably with some of the first-class farmers in Western New York. I have just completed the threshing of my grain, which was principally barley. The total crops of my farm amount to a little over 6,000 bushels of barley (a part of which was grown on shares), and 600 bushels of wheat. The barley grew on 88 acres of land, and the wheat on 8 acres. Some three acres of the wheat yielded above 90 bushels to the acre, a yield probably unprecedented even in this country of great things. The yield of barley, however, was nothing extraordinary for this country. In addition to my grain crops, I have about 60 acres of potatoes, which will average 200 bushels to the acre; also 2 or 3 acres of cabbages or pumpkins. My total crop will be about 550 tons. This amount of produce, to a New York farmer, will seem large; but there are many farmers in this country who will triple that amount of produce this season, and some few that would not miss that amount if taken from their crop. JOHN M. HEMAN, about ten miles south of me, this season has harvested and threshed 5,000 bushels of wheat, and nearly as much barley. He has also 1,500 acres of potatoes, all of which will yield finely; and cabbages, beets, carrots, and onions, without count. In fact, California will this season about supply herself with the great staples of life."—*Seneca County Courier.*

THE WINTERING OF STOCK.

TAKING the last census as the basis of the calculation, and there are at this time about six hundred million dollars worth of live stock in the United States. Their value exceeds that of all the manufacturing establishments in the country, and also exceeds the capital employed in commerce, both inland and foreign. Live stock is an immense national interest, but one which has been sadly overlooked by American statesmen and writers on public economy. How to winter cattle, horses, hogs, sheep, and poultry in the most economical way, all things considered, is a subject on which an instructive volume might be written. The science of animal physiology sheds much light on the business of keeping live stock, both in winter and summer; and if properly studied in its bearings on this great interest, would add indefinite millons to the income of farmers, and the wealth of the nation. But how can we persuade our readers to study animal physiology in connection with the production of the flesh of their domestic animals! It is impossible to show them the valuable fruits of any science relating to husbandry before its seeds are permitted to be planted and cultivated in any State in the Union. Nevertheless, as the truths of science and the truths of empiricism never contradict each other, many learn by the latter not a little of the wisdom taught by the former. Thus science informs us *why it is* that cattle and other animals subsist on less food in winter, and keep in better order, if well stabled or housed, and regularly fed, than they will if subjected to the rigors of cold storms, snow, rain, mud, and irregular feeding. The latter system consumes both forage and flesh needlessly, and, of course, involves a prodigious loss to such as follow it. Warmth is the equivalent of food, because food is used in the bodies of all animals to generate what we call animal heat. How far warm stables will save hay, grain, roots, corn-stalks, and other food of domestic animals, is not known; but a number of experiments lead to the conclusion that one-third may thus be saved with advantage to stock. A man at work out in the cold of winter needs double the food that would serve him if he remained idle in a warm room through the winter; and the same is true of an ox or horse. A large share of all domestic animals do not work, and are kept for the production of flesh, milk, or wool. They need a reasonable amount of exercise to preserve their health, as well as good keeping in the matters of food, drink, and shelter. In wintering hogs, true economy requires that one should keep no more than will give the maximum of flesh for the food consumed. To keep a pig without his gaining in weight involves not only the loss of the food he consumes, but all the injury resulting from stunting his growth. Few are aware of the damage done to young animals by prematurely arresting the growth of their bones and muscles. A stunted pig, calf, colt, or lamb has received an irreparable injury. You can no more fully make amends for the shock given to the vital functions, than you can give a horse a new seeing eye in place of one that has been put out by violence. No after-feeding of a horse will give him a new eye; and no good keeping will develop an animal frame perfect in all its parts after it has been stunted in youth. Most farmers attempt to keep too much stock, both in winter and summer, for their food to be manufactured into flesh, dairy products, or wool. A few superior animals well housed in winter, and well fed at all times, yield the largest profit. Of course, stables should be properly ventilated that all animals may have a full supply of pure air. Most stables, and all sheds, give too much of it, especially in cold wintry weather. Look out for a plenty of straw, or other litter, to absorb all urine, unless you have a tank or other reservoir for it to run into. Manure is now as valuable as money at ten per cent. compound interest; for all the crops that manure aids so much in their annual growth sell at high prices. It costs nearly as much to plow, plant, hoe, and harvest an acre of corn to obtain 25 bushels as 50 bushels; and manure will double the crop.

FLAX-CULTURE, AND FLAX-COTTON.

Mr. R. T. Brown, of Crawfordsville, in a communication to Gov. Wright, President of the Indiana State Board of Agriculture, says:

I send you enclosed a few samples of flax cotton, presented to me by the Hon. H. L. Ellsworth, of Lafayette.

Mr. Ellsworth has secured the machinery necessary for the manufacture of cotton, and will have it in operation early in the season. He has on hand the "stem" grown on 120 acres last season, which, from experiments already made, will, he supposes, yield about 300 pounds per acre of cotton, similar to No. 2 of the enclosed specimens. The expense of reducing the fibre to this state, after the stem is produced, is about two cents per pound, which, at the usual price for cotton (10c.), will leave eight cents per pound, or $24 per acre for the farmer who produces it. To this must be added the value of the seed, which will range from $6 to $8 per acre—giving a final result of $20 at least for each acre. This is Mr. Ellsworth's calculation; it may be too high: but if we allow for the magnifying effect of his zeal one-third, or even one-half, still flax would be as profitable a crop, in proportion to the amount of labor required to produce it, as any of the staples in the country.

We sincerely hope that the patriotic efforts of Mr. Ellsworth and others to render the culture and manufacture of flax more remunerative may prove successful; and to aid them in their contemplated improvements, we have had engraved, drawings of the apparatus recommended by Prof. Wilson in his recent lecture at Saratoga before the New York State Agricultural Society for steeping flax by the latest improved process, and also of the cells and fibrous tissues of the plant. This learned and interesting discourse has been neatly printed in large type by C. M. Saxton, agricultural book publisher, of New York, in a pamphlet form; and to any one at all interested in flax-culture, it is well worth the twenty-five cents charged for it.

While we wish all possible success to this new agricultural enterprise, and will aid it in any way that we reasonably can, it is due to candor to say that the idea of transforming the vascular tissue of flax into a substance having the properties peculiar, as we believe, to the cellular tissue of cotton, is utopian and impracticable. It may not, however, be necessary to effect any such transformation to produce an article from the bark of flax that may be carded like cotton and spun by similar machinery. It is the hand-labor required in the old processes for the production of fine linen fabrics that renders them so expensive, and not the original cost of flax in the bundle. Of the latter many thousands of tons are wasted in this country, after the seed has been removed, because the lint was regarded as valueless. The quantity saved, and returned at the last United States census, was 13,391,415 pounds. The quantity of seed saved was 562,810 bushels. Of the lint saved, more than half was grown in the State of Kentucky (a curious fact), her crop being 7,793,123 pounds. Virginia is the next largest producer of flax, and New York the next. Ohio farmers produce nearly fifty per cent. more flax seed than those of Kentucky—raising the crop mainly for the seed alone. They saved only 446,937 pounds lint in 1850—about the sixteenth part of the lint manufactured in Kentucky.

The structural arrangement of the stem of the flax plant, as shown in the engraving, is copied from Dr. Schacht's Treatise, entitled *Physiologische Botanik, Die Pflanzenzelle*, (Berlin, 1852.) To separate the corticle filaments of the plant from the woody part, two agents, the one mechanical and the other chemical, have been employed. The old flax-brake and other appliances for dressing lint are well known to most of our readers. With these laborious mechanical processes, chemistry had nothing to do; and yet, the retting or "rottting" of flax, as it is more commonly called in this country, effects changes in the bark of the plant which are strictly chemical in their nature. A scientific knowledge of these changes forms the basis of all recent improvements in the preparations of lint for carding, spinning, and weaving, or spinning without carding. The minute filaments, or vascular tissues that constitute the bark of flax, are glued

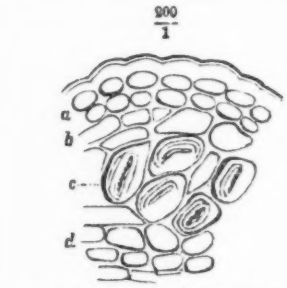
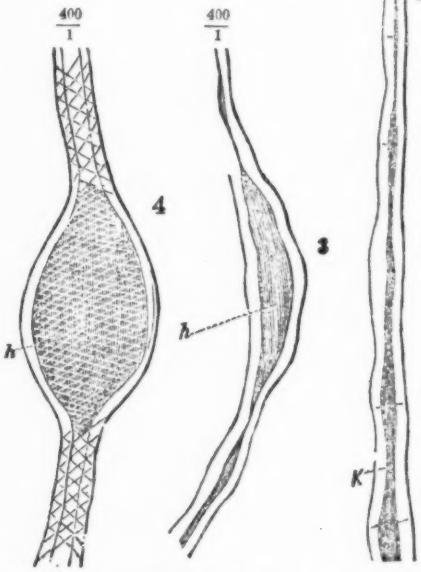


Fig. 1. Transverse Section of Straw.
a, Epidermis. *b*, Bark.
c. Fibres. *d*, Shove, or Woody center

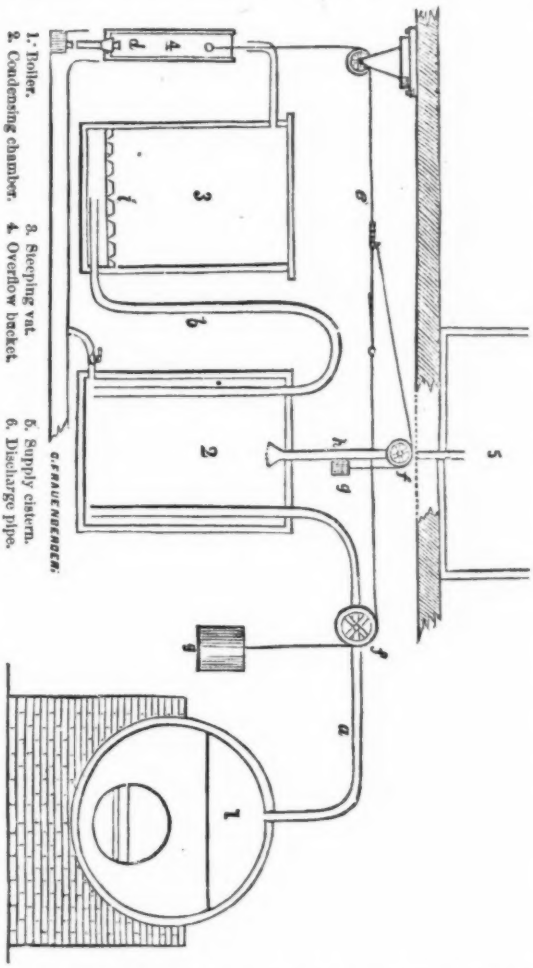


Figs. 2, 3, 4, Longitudinal sections of Fibres — *h*, *h*, *h*, Cavities. Figs. 3 and 4, Ordinary Cavities. Fig. 4, Rarer kind.

together by a gummy mucilage, which needs to be dissolved out, either by exposing flax to rain and dew while spread out on the ground, or steeped in a vat or pond of water, or by the use of hot water in the manner soon to be described. The separation of this intercellular gum is very imperfect without *fermentation* and washing, which, when well done, render the tissue of flax as near like that of cotton as it can be. To dissolve the mucilage and remove it without damaging the filaments, by a cheap and speedy process, and without fermentation, has been the study of many ingenious chemists for the last quarter of a centuary.

The first establishment for using heated water to remove the cohesive matter from flax fibres, and facilitate the separation of the woody part, or shove, was erected at Mayo, in Ireland, in 1848; and Prof. WILSON informs us that now there are over twenty at work in different parts of Ireland, and several in England, which consume between 30,000 and 40,000 tons of straw annually. In this new and improved process fermentation is not avoided, but hastened and controlled, so that the desired result is attained much sooner, with more certainty, and less injury to the filaments. The temperature of the steep is kept between eighty and ninety degrees, and regulated at will by the attendant. On the Continent, yeast has been used to start the fermentation with advantage. In ten comparative experiments, made with nine different sorts of flax, it resulted that the average produce of 1200 pounds of flax straw gave 144 pounds of dressed fibre in the hot steep, and only 118 pounds when steeped in the old way. In an old German process, sour whey was used with warm water for setting with decided advantage. M. CLAUSSEN uses a weak solution of potash or soda to dissolve out the nitrogenous matter in his patented process. The use of caustic potash for this purpose was tried more than a centuary ago; and Prof. WILSON adduces a great deal of instructive and interesting history on this branch of the art. A Mr. WATTS, of Glasgow, obtained a patent last year for an improvement in flax steeping, said to be much better than the plan of M. CLAUSSEN; and a Mr. BUCHANAN has recently patented an improvement on the plan of Mr. WATTS. This latest improvement will be given in the language of the learned lecturer, referring the reader to the lecture, as published by Mr. SAXTON, for a full and most satisfactory account of the subject.

"In this the steeping is effected by *repeated immersions* in a tank of heated water, arrangements being made by which the temperature is never allowed to exceed a certain degree—a point of great importance, both as regards the abstraction of the azotized extractive matter, and also the quality of fibre produced. It is well known that albuminous solutions, containing even a very small proportion of albumen (1 in 1000), coagulate at a temperature of 108°, and then become insoluble; and it is always considered that fibre is more or less injured if exposed beyond a certain high temperature. These two important points have been taken advantage of in BUCHANAN'S process; the temperature of the steep liquor is kept within a certain range of temperature, and the operation, both as regards time and produce, more satisfactorily performed. The process is quite *automatic*, thus saving labor and the risks consequent upon carelessness; and the mechanical arrangements by which it is effected, are very simple and inexpensive. The accompanying diagram will, I hope, make the process clearly understood. The flax straw is placed in an open vessel (No. 3) termed the steeping vat, having a false bottom (*i*); a boiler (No. 1) generates the steam required; and between these two is placed a suitable vessel (No. 2), the condenser, of about the same capacity as No. 3, and communicating with that by the hot water pipe (*b*), and with the boiler by the steampipe (*a*). This center vessel or condensing chamber is filled with water from the cistern (No. 5), and steam is then blown in from the boiler. When the latent heat of the steam is absorbed, and condensation no longer takes place, the hot water is driven over into the steeping vat, and completely immerses its contents. The overflow pipe (*c*) then conveys a portion into the bucket (No. 4), which, over-powering the balance weights (*gg*), descends, drawing the chain (*ee*), which, being attached to the pullies (*ff*) fixed on the cocks of the steam pipe (*a*), and of the condensing pipe (*h*), reverses their action by cutting off the steam and turning on a charge of cold water into the condenser. The steam in No. 2 is then rapidly condensed, and the liquor drawn back from the steep vat into which it had previously been forced. This completes the operation of immersion, which recommences immediately: for as soon as the overflow bucket (No. 4) has reached a certain point in its descent, it strikes against a pin, having a screw adjustment, which causes the valve (*d*) at the bottom to open and discharge its contents into the discharge pipe (No. 6.) The bucket, then relieved of its load, resumes it original position, the balance weights (*gg*) act on the pullies (*ff*), which again reverse the cocks, cutting off the cold water sparge, and turning on the steam to No. 2. This is repeated as often as may be required.



"So far as the experiments have gone, it has been found that by ten such immersions the whole of the coloring matter of the flax has been removed. These in practice would not occupy more than three or four hours. This, however, is subject to the test of the operations on a commercial scale which are now in progress in Scotland for carrying out the patent. [The patent for the

United States will be carried out by the American Flax Company, of which Mr. THOMAS KIMBER, Jr., of Philadelphia, is the Managing Director, to whom all applications in reference to it should be made.]

"By this process we have all the advantages obtained by WATTS—economy of products—increased economy of time, only four hours being required instead of twelve—and, in addition, great economy of labor. Another great improvement is claimed by BUCHANAN, his method of drying the steeped straw preparatory to scutching. This is usually a tedious and costly process as regards labor and arrangements. The fibre, too, is to a certain extent liable to be injured by the necessary handling. The ordinary mode is to place the flax thinly spread between two wooden laths, which, when closed by means of hooks or rings over their ends, firmly hold the stems: about fifty-six of these are required for a cwt. of flax. They are then carried to the drying shed and suspended from frames, where they remain exposed to the action of the air until they are dry. The time required depends on the weather—from three to four days to as many weeks. In WATTS' process, where steam is available, the process of manipulation is the same, but the drying is effected in a heated chamber in a much shorter time. BUCHANAN'S method is entirely different. He proposes to effect the desiccation in the same vat in which the flax was steeped, by means of dry warm air, which is driven through it in unlimited quantities, at a very little expense. The air is readily obtained in the desired state by causing it to pass through porous earthenware pipes set across the lower part of the chimney, which, while heating the air, deprive it of its moisture. These communicate on the one side with a blower driven by the engine, and on the other side with a pipe which conveys the heated air to the lower part of the vat containing the flax to be dried. This is all the arrangement needed. The blower drives the air through the earthenware pipes; its temperature is then raised, and moisture abstracted, and entering the bottom of the steeping-vat, it comes in contact with the flax and passes through it, absorbing and carrying off the moisture, and leaving the flax in a perfectly dry state. It is then ready to be rolled and scutched. The patentee's experiments induce him to believe that by this process the entire operation of converting the straw into dressed fibre may be effected in the working-day, or twelve hours; and, from the simple nature of the mechanical arrangements and of the materials required, a very moderate outlay would suffice for the formation of an establishment equal to the probable produce of a given district. The steeping process being entirely automatic, the cost of labor is very small indeed, and the whole expenses of the operation materially reduced."

AGRICULTURAL SCHOOLS.—Mr. C. L. FLEISHMAN, who was educated in one of the German agricultural schools, says:

Who is not acquainted with the history of the wars which enervated Germany—which exhausted all her pecuniary means and brought her to the verge of utter ruin? Germany was after the close of the French war in a pitiable condition; and had it not been for her kind soils, which for thousands of years enabled her to stand the severe calamities which befell her during that long period, Germany would now be a second Greece. She abopted, at an early period, various means to improve her agriculture. Professorships of Agriculture were instituted at the Universities—periodicals and journals were published to disseminate modern improvements—fairs and meetings were regularly held to encourage the farmer; but all that gave not the desired results. A thorough education was found necessary, practical and scientific education, which enables the farmer to enhance the value of his landed property, as circumstances and condition allow it, to give them the knowledge to improve and change the various modes of culture, *and to be more than a mere imitator.* Proper agricultural schools were wanted, and the monarchs of Germany spared no means to accomplish this important object. The ablest men were selected for the Institutions, and nothing was spared to induce them to take charge of them. The late King of Prussia, who like his ancestors, paid great attention to all improvements in husbandry, was the first to establish such an institution. He invited THÆR, the celebrated German agriculturist, to settle within his kingdom and introduce Agricultural schools. THÆR accepted his offer, and left Cella for Berlin. The other monarchs of Germany followed the example of the King of Prussia, and Germany had, in 1847, sixty-two large Institutions. With some of them Foresta and Veterinary schools are connected. Austria then had 9; Prussia 12; Saxony 5; Bavaria 16; Hanover 2; Wurtemburg 8; and other States 14; in all 62.

THERE is a capital of $80,000,000 invested in the culture of the cane in the States of Florida, Louisiana, and Texas. These States produce annually about 308,000,000 pounds of sugar, beside which foreign importations are made to the extent of 350,000,000 pounds. Even a short crop of sugar at the South, which reduces the usual production only 100,000,000 or 150,000,000 pounds, invariably advances the rate of sugar from one to one and a half cents per pound; which, on the entire consumption of 660,000,000, is equal at one cent to $6,500,000, and at one and a half cents to about $10,000,000.

Horticultural Department.

CONDUCTED BY P. BARRY.

YEARS ago horticulture was made a special department of this journal, and placed under my charge. From that time until the present my small monthly contributions have been made with great pleasure, and, I believe, with some profit, both to myself and others. I would gladly continue them, but other engagements compel me to surrender the charge to some one who may have sufficient time to do it justice. I feel quite confident that my withdrawal will be no detriment to the journal, but rather an advantage, as the publisher will be able to fill the pages I have occupied with more varied and instructive matter.

Within ten years horticulture in this country has made wonderful progress. At the time I began to contribute to this journal, gardening occupied a very small share of public attention; now, there is scarcely an individual in town or country who does not feel an interest in it. The planting of orchards, laying out gardens, and the embellishment of grounds, are among the most popular topics of the day, not even excepting *politics*. The commerce of horticulture has grown up from a petty, unnoticeable traffic, to an important pursuit, actually surprising people by the rapidity of its growth and the magnitude of its operations. Such a spectacle has never been witnessed in any other country, and nothing connected with American progress affords a more striking proof of the salutary influence of free institutions on industrial pursuits, or of the wonderful activity and enterprise of the American people.

What horticulture in this country will be twenty years hence, is an interesting inquiry. Our career in this pursuit has just commenced. Heretofore we have been laboring under serious disadvantages, the greatest of which has been inexperience. The history of almost every man's gardening efforts has been, for a long time, a series of mishaps. How to plant, what to plant, and when to plant, were all unsolved problems to the multitude. We had no books worth naming, founded on actual American practice, to guide us; like travelers in a wild, unknown land, without a guide or compass, we had to guess at the way — and after long and perplexing efforts, have frequently found ourselves, wearied and discouraged, back at our starting point. We are in this position, however, no longer. Those who now embark in gardening have the dearly bought and valuable experience of others to guide them, and they may advance with confidence and rapidity.

In parting with the readers of the *Farmer*, I may well congratulate them on such a state of things; and I cannot refrain from calling upon them to aid one another, by communicating their experience, without hesitation or delicacy, through its pages. This is the sure way to promote improvement. The results of actual practice, gathered up from various localities, whether successful or unsuccessful, are more instructive than the regular contributions of any individual, whatever his experience or capacity may be.

I part with the gentlemen with whom I have so long associated, on the most friendly terms; indeed, there has never been a single disagreeable word exchanged between either proprietors or editors and myself, from the first day I became connected with them. They personally, their journal, and its readers, have all my best wishes; and as leisure permits, I shall take occasion to communicate with them on some of the topics of the times connected with horticulture.

P. BARRY.

The reader will see by the above that our and their friend, who has so long and so ably conducted the Horticultural Department of this journal, will no longer occupy the responsible position of *Editor;* while, as heretofore, he will "take occasion to commu-

nicate" with its readers "on topics connected with horticulture." Mr. B. is a gentleman who stands highest with those who have seen most of him, and know him best. His pen has made him public property; but the public, no more than individuals, can properly urge a man to sacrifice his personal interests for their benefit. While Mr. BARRY will write less for the *Farmer* than heretofore, other able and skillful horticulturists will contribute much more to its pages. The services of such have been secured for the next and future volumes of this standard work. DANIEL LEE.

THE FALLEN LEAVES.

PASSING along the street the other day, we saw a gentleman deliberately sweep together the leaves that had fallen around his house, and burn then on the open street, just as though they contained the germ of some fearful contagious disease. Our first impulse was to pull up and remonstrate with him on such a waste of one of the most valuable fertilizers for his trees and his garden crops that he could possibly find; but his earnest and determined air repelled us, and we hurried on, leaving him to finish his work to his own liking. We then asked ourselves what thoughts occupied this man's mind while engaged in such a curious method of dressing his grounds. Were they such as the poet or philosopher would indulge in? No, indeed! poetry and philosophy he regards as nonsense; we know the man too well to impute any such thoughts to him. He is one of the most inveterate money-makers—worth probably half a million of dollars—living in a shabby old house, on a small lot, fifty by a hundred feet, with a few miserable, neglected trees around it. Fallen leaves were to him merely a nuisance, that he must get rid of in the cheapest possible way. It cost perhaps fifty cents less to rake them together and burn them, than to put them into a cart or wheelbarrow and carry them to the manure heap. This, he said to himself, is a clear gain of fifty cents.

We have seen the same thing done on a much larger scale: a neighbor of ours, some years ago, made a practice of setting fire to the dry leaves and grass on his premises in the spring, and allowing the fire to spread all over his grounds, to the terror of the neighborhood—and all this to *save* a few dollars that it would cost to rake them up and carry them off to the manure heap. The same man purchased manure every season, at the rate of about seventy-five cents to a dollar per wagon load. It must be admitted that few people take this method of destroying their fallen leaves; but very few seem to appreciate their proper value, or turn them to proper account.

Save the fallen leaves, we say to every man who has a garden. Carry them to some corner, and mix them with a little lime, earth, or stable manure, to promote decay, and you will have a manure that may be safely applied to every tree, plant, or flower that you grow. Many gardens may be in such a condition as not to require strong stable manure, but would be greatly benefitted by vegetable mold, such as results from decayed leaves.

To fruit trees it may be applied with perfect safety; there is no danger of a surfeit, as there always is in applying powerful manures. It produces a sound, healthy, and hardy growth, inclined to fruitfulness. We have never used any material for mulching that has so well satisfied us in its results as decayed leaves. Last summer we mulched some newly-transplanted Pear trees with them, covering the ground about the trees, as far as the roots extended, three or four inches deep, and although we had a drouth of three months' duration, the trees all lived and thrived admirably.

Between the rows of Pear trees there were Strawberries planted; and as soon as the runners reached the leaf-mold they struck root into it, with the most extraordinary vigor, forming large, luxuriant plants, with roots a foot long, in the course of a few weeks; and when taken up large quantities of the mold adhered to them, so completely had

they penetrated it. A top dressing of this leaf-mold would be one of the very best applications to a Strawberry bed. No man should think of using tan bark if he can get rotten leaves; indeed, we have no faith in tan bark any way as a mulching.

In the preparation of hot-beds and forcing-pits, leaves are of great value, as they make the heat milder and more durable. One-half or one-third leaves, and the remainder stable manure, well mixed, make an excellent hot-bed.

Gardens are often ruined by the application, year after year, of one kind of manure—the soil becomes sodden and sour—and if a good dressing of rotten leaves be given occasionally, it would restore it to a more healthy and natural condition for cropping. There is not sufficient discrimination exercised in the application of manure. Most people seem to suppose that if they apply an abundance of enriching material, no matter what it be, they should secure good crops, and when they fail they are at a loss to know why. The fact is, a soil may be *worn out* by a continued application of the same kind of manure, as well as by continued cropping without manure. This every gardener knows. A change is necessary; and under all conditions leaf-mold is good. It supplies the very substances of which the soil has been deprived by previous crops, and in a state perfectly harmless.

The leisure season is at hand, and we recommend those who have gardens to devote a portion of it to the gathering up of leaves.

Garden Hints for December.—It often happens that even here at the north a considerable portion of this month is open, and allows out-door work to be carried on. Last year we planted trees till within a few days of Christmas. Every fine day should be improved, until the ground is frozen solid. All kitchen gardens should be spaded up in the fall, and manured. If grubs are troublesome, apply a dressing of soot and ashes.

Fruit trees should be mulched. Mulching protects the roots from frost, and renders the tree less sensible to sudden and violent changes of temperature. If the ground be already rich, and manure dangerous, mulch with leaves. Spread them about the tree six inches deep, and throw a little earth over them, to keep them from being blown away. Stake up carefully, or in some way secure, newly planted trees from being rocked about by the winds: an opening is soon made at the base of the tree, in which water lodges, and when it freezes the tree is frequently destroyed.

Cover *Strawberry beds* with leaves; some kinds are tender, and are nearly killed out by a severe winter, if there be little snow. All sorts, hardy or not, are the better for being covered. The leaves can be raked off on the opening of spring.

Raspberries should be protected, and the best way is to fasten the canes to the ground by means of a hooked peg, and cover with leaves or some earth. When the canes are much injured by winter, the crop is poor. Protection is cheap and safe.

Beds of bulbous roots, such as Hyacinths, Tulips, Japan Lilies, &c., should be covered with leaves. Carnations, and other herbaceous plants, may be nicely protected by a covering of moss from the wood.

Rare or tender evergreen trees may be very tastefully protected, by boughs of evergreens fastened around them by unconspicuous ties. This is safer than straw sheathing, and much less unsightly in the landscape.

The *fruit room* and *root cellar* will need frequent examination, to see that all decaying objects are removed promptly. Both these places should be kept uniformly cool as possible, not to freeze, and quite dry.

Dahlia roots are often lost by being housed in a damp state, and left in a cellar. They should be well dried, even if fire heat be necessary, and then put on shelves in a dry place. They must also be looked to occasionally, and moldy, decaying parts removed, and, if need be, moved to a dryer place.

Editor's Table.

THE GENESEE FARMER TO ITS READERS AND PATRONS.—At the close of the Fourteenth Volume, second series, of this standard work, it is pleasant to know that it has outlived a whole generation of men since the first *Genesee Farmer* was published in the flourishing village of Rochester.—With increasing years, and the unparalled growth of Western New York, it has gained wisdom, strength, and every advantage to serve the great Farming Interest, disconnected from all private speculations, and with no other purpose than to benefit its Readers and Patrons by every means within the reach and scope of honorable journalism.

We hope and trust that every subscriber to the present volume will promptly send in his name and the trifle asked for the FIFTEENTH VOLUME, second series, the first number of which will be ready for mailing by the time this meets the eye of most of our friends. Grateful to you all for past favors, we ask you to bear in mind the fact, that this Journal was started at the low price of *fifty cents a year*, when there was not another cheap paper of the kind in the civilized world. A popular taste for Agricultural and Horticultural reading had to be created in this country; nor is that difficult and useful task yet fully accomplished. Much, however, has already been done; and while life lasts, we shall work on, and work ever, to learn and teach the true principles of Rural Economy. Now is the time for every friend of agriculture to aid the glorious cause by extending the circulation of the *Genesee Farmer*. It relies for support entirely on the voluntary assistance of its Readers and Patrons. Properly studied, every number we issue is worth to the subscriber the price paid for a volume. The average compensation we receive is less than three cents a number; and we are contented with oil enough to keep the wheels in motion, believing that it is better for the human brain, and human muscles, to wear out than to rust out. If circumstances prevent the accomplishment of all the good which we may desire to effectuate, that is no reason why we should not do so much good as our means and circumstances permit.

Friends, you can, if you will, render the Rural Industry of your country an essential service, by procuring more readers of, and subscribers to, this standard Journal of American Agriculture. It is truly a national work, and one that deals only in facts and principles. It contains more reliable *Statistics* relating to Stock-growing, Sheep and Dairy Husbandry, Crops, and the Art and Science of Tillage, than can be found in any other paper published in the United States or Europe. Our object is to render the critical study of Agricultural Statistics popular with the American people. Vague generalities are devoid of instruction. If our present State and National Statistics are defective, as we know them to be, public opinion on the subject must be enlightened before a reform can be urged with success. The People must be moved before any substantial progress can be made. Friends of true progress, help us to move the People, that our Agriculture, instead of wearing out the soil, and consuming both the timber and fertility of the country, may enrich every arable acre in the Republic, and so improve its Farms and Farmers, its Gardens and Gardeners, its Fruits, Cereals, and Domestic Animals, that our noble profession may become as independent, cultivated, learned, and prosperous, as it is useful to mankind.

Brother Farmers, let us magnify our calling, by cordially uniting our best efforts for its elevation. It pre-eminently deserves more care, more study, and more mutual instruction, among the owners and cultivators of the soil. Every thing depends on your action in the premises, whether Agriculture goes up, or goes down, for the next twenty years. Rest assured, it can not rise without an earnest effort in its behalf. Prices are now most encouraging for every thing you sell; while the paper-maker, the printer, and the editor, pay more for their grain or flour—their meat, and other provisions—their vegetables, fruits, firewood, rents, and other family expenses—than ever before. Think of these things, and do not forget your old friend—THE GENESEE FARMER FOR 1854.

DEATH OF JOHN DELAFIELD.—It is our painful duty to record the death of the President of the New York State Agricultural College, the Hon. JOHN DELAFIELD, at his residence near Geneva on the 22d ultimo.

He was born in New York, 1786, and graduated at Columbia College. On leaving college he was, for a time, engaged as clerk in the counting-house of a firm largley connected with the East

India trade. It was on his father's estate, at Newton, Long Island, that, at a later period, he fir t exhibited that fondness for agricultural pursuits which distinguished him through life.

Shortly before the commencement of the last war, he was sent, under a commission of the United States Government, to command a fleet of merchant vessels. Soon after hostilities commenced, he was prisoner on parole, in England, having been wrecked on the British coast.—During the war he was allowed to visit the agricultural districts, and became acquainted with several eminent agriculturists. After peace was established, he was induced to remain in England, and for eight or nine years was well known in the London Exchange as the American Banker. By the influence which he thus acquired among capitalists, he was enabled to spread foreign money over the country, especially in the Southern and Western States.

It was in 1839 that he effected the loan for the State of Illinois, but the failure of payment and non-fulfilment of agreements by that State nearly proved his ruin. Although for twenty years he had conducted one of the most successful banking-houses in New York, he never lost sight of his favorite science, Agriculture; and annoyed by the failure of his monetary speculations, he resolved to withdraw from active life in the cities, and to turn farmer in earnest. In 1842 he removed to a farm which he had purchased at Rose Hill, Seneca county, near Geneva, where he gave his attention especially to the rearing of live stock. In 1851 he was elected President of the New York State Agricultural Society, and at the time of his death was President elect of the new Agricultural College.

We had the pleasure of hearing him deliver an address before the Monroe County Agricultural Society, in Rochester, a few weeks ago; and also of learning his plans for raising the funds necessary to place the Agricultural College on a firm basis. Alas, that sudden death (by a disease of the heart) should threaten to destroy this institution in its embryo state! It has never received a dollar from the Legislature; and it can not be adequately endowed by donations from individuals, without great personal efforts on the part of its friends. Whether such efforts will now be made, we are unable to say. We had consented to go out with Mr. DELAFIELD and address meetings of farmers and others, in Monroe and the adjoining counties, to obtain subscriptions for the College. He was confident of success; one gentleman in Missouri offered him a thousand dollars. It is now thirty-two years since Judge BUEL obtained the first charter for an Agricultural School, or College, in this State; but death has made sad inroads upon the devoted friends of this branch of useful knowledge. BUEL, GAYLORD, DOWNING, and DELAFIELD, have been cut down in the midst of their great and patriotic labors; and five hundred thousand farmers remain in the Empire State without a single school, or an acre of land, devoted to the advancement of rural arts and sciences.

ENGLISH AND AMERICAN HORSES.—Among all the speeches made by Governors, Ex-Governors, Honorables, and amateur farmers at the Springfield Horse Exhibition, no one but that of CHAUNCEY P. HOLCOMB, Esq., of Delaware, (a sensible Philadelphia lawyer turned farmer), discussed topics pertinent to the occasion. Mr. H. said that he had recently visited England, and partly for the purpose of buying a good horse, provided he could find one for sale that would be likely to improve the stock in his section of country. He returned without purchasing any, and thus comments on the English system of breeding this noble animal:

He wished to tell his brother farmers what the course of breeding was in England, and to show the result upon the stock, that no American farmer need go further in the same direction. They were aware that when the English breeders united the blood of the Barb with the Turk and the Arab, no better horses were to be found in the world. They would then run four miles and repeat in 1.40 and 1.24. Now, instead of running four miles and repeating, they only ran two or three, and did not repeat at all. It was a single dash of two, two and a half, and, at the Derby, of three miles, and that was all. He had told eminent breeders there that the horses in this country ran four miles and repeated—repeating, sometimes, two or three times. They did not doubt the fact. They said they had formerly such breeds there, but it was not so now. In corroboration of his statements, Mr. H. mentioned that, in a conversation he recently had with his friend from Virginia (Mr. BOTTS), he assured him that some horses of the Boston blood ran, the other day, at Richmond, four miles in 7.46, 7.46¾, and 7.49. They would see in what remarkable time the last heat was run—about three seconds longer than the first. They had not got any horses like these in England; they would be very proud of them if they had.

Why was this degeneracy? In the first place, he was very much surprised, on visiting England, to find that horse-racing, if it was not the business of the nation, was a very great amusement. In every city, town, and village, they had betting-houses, where all the members of the community, the serving-maid as well as the noblemen, entered their bets, through the whole year, to be decided when the races came off. So great had this evil become, that a bill was passed at the last session of Parliament, designed to put these betting-houses down. Now, the result of this was, that every attention was paid to getting *heels*. He had stood by the side of two year old colts, fifteen hands high and he asked his friend, Mr. JOHN DAY, how it was possible to make up those colts in that way. Mr. DAY told him that they were entered to run at two years old, three years old, and they were entered shortly after they were foaled, to run at a certain time. The dam was kept as high as possible, and in the paddock there was a little box, into which the colt could run, where oat meal was placed, and oats were always before him. They were stuffed with all the oats they could be induced to eat. The consequence was, that it was quite impossible that they should have any bone. They run at two, three, and four years old; but at all the races which he attended, he saw but one or two entered to run even at five years old, for by that time they were broken down.

He wished to say there—since they had come together to speak out freely their opinions—what he thought. He believed that they needed to put two inches upon the height of their horses; and those two inches of height the breeders must give. They could do it. They would give them five years—ten, if they wished—but they must put their horses up two inches higher. Gentlemen might say they were tall enough for some purposes; but what he wished to do was to supply the luxuries of cities. The horse, with the citizen, was an article of luxury. They would pay almost any price, if the breeders would only get them up to the right height. "Now, gentlemen," said Mr. H., "get your Morgans and your Black Hawks up these two inches!" (Applause.)

The above remarks are practical and important, although we are inclined to believe that the popular city taste for horses well up on long legs is vicious and needs correction. All experience goes to prove the hardiness of medium sized, and small, tightly-made horses; while such as have much day light under their bellies, colts that have been pushed on grain from the time they could eat oat meal, make horses with feeble constitutions, with no capacity to endure hardships, which are comparatively worthless for service.—As we have from our old colonial native stock the best cows in the world for converting grass into milk, butter, and cheese, so we have the best horses for all work that can be found in any country. These remarks are made in no boastful spirit, and their truth will be sustained by satisfactory references and authority in the next volume of this standard work on Tillage and Husbandry.

First State Fair in North Carolina.—It gives us sincere pleasure to learn that a State Agricultural Society has been organized under the most favorable auspices in the good old North State. It has a delightful climate, and more excellent farming land than it gets credit for by travelers passing through it on the great thoroughfare between the Northern and Southern States. The *Raleigh Register* gives the following animated account of the great State Fair:

Never, within our editorial experience, have we chronicled any event with more heartfelt gratification than that which we now feel in recording the complete success of the first North Carolina State Fair! We say *complete success;* for, whether we take into consideration the immense number and the high respectability of the persons present—the character of the exhibition itself—the demonstrations which met the eye at every gaze of the available and inexhaustible resources of the State—or the indications of State pride and State patriotism, which every where found vent—it was, in each and every respect, a triumph for North Carolina—a triumph which all her sons, who have her welfare and reputation at heart, may well be proud! We confess that at no previous time have we gloried more in the fact that we were a citizens of North Carolina, than when, on the opening of this fair, we beheld the evidences of a greatness, prosperity, and *progress*, that put to shame the empty derision of the witlings who have made her a butt of their ridicule. In no State of this Union has an experimental, initiatory fair, been *so successful or so eminently creditable.* This is the unanimous declaration of those from abroad who have favored us with their presence. Nearly every section of the State, and every industrial pursuit within its borders, were represented. The East sent its fine staples and its blooded stock; the West, its splendid cattle and its rich minerals. The farmer poured in his agricultural products—the mechanic brought forward splendid specimens of his skill—the native artist exhibited the productions of his pen or his pencil—and the ladies of the State, never behindhand in any good work or beneficent object, crowned the excellence of the whole with the multiplied beauties which nature had yielded to their culture, and the varied and tasteful attractions which had sprung from their handicraft.

To chronicle the agricultural progress of this vast empire, we expect soon to be under the necessity of publishing another paper as large as the *Farmer* once a month, so that the readers of both may have a semi-monthly review of all the important events and markets affecting the agricultural interest.

Agricultural Addresses.—We are indebted to our numerous friends and correspondents, for many favors in the way of copies of addresses delivered at the State and County Fairs during the past autumn. They evince a gratifying advance in the rural literature of the country. We have marked several passages for copying and comment in future.

Large and successful exhibitions have been held, for the first time, in Louisville, Ky., Raleigh, N. C., Richmond, Va., Springfield, Ill., and in scores of counties. Progress in agriculture, eloquent speeches, and sincere devotion to this paramount interest, are visible in nearly every State in the Union. At no distant day, all the earnest friends of rural improvement will unite their efforts, and accomplish as much in one year as they now do in ten. Harmony and co-operation are the only elements of substantial advancement that we still lack to achieve great things. Time will fuse all injurious obstacles, and bring men who really have one object in view to act in concert, and with infinitely greater effect. Agricultural addresses should tend in this direction. Isolation is weakness. If it were not so, no two families need have the least intercourse whatever, and all society be extinguished forever.

The recent great match on Long Island for $10,000, between "Prince," a trotter, and "Hero," a pacer—distance ten miles, in harness—was won easily by the former. "Prince" is a chestnut gelding, raised in Kentucky, nearly if not quite thorough bred, of the Bertrand stock, his sire being "Woodpecker." He is the property of Dick Tenbroeck, who purchased him and another at Louisville last May, for $1,500. He has already won some $16,000 with "Prince," and refused a cash offer of $3,000.

In an advertisement of Longett & Griffing, last month, we made a mistake, putting guano at $15 per ton, instead of $45. The reader, no doubt, corrected the mistake.

ENTERPRISE IN FARMING.—In no other pursuit are enterprise and sound business energy better rewarded than in agriculture. "Slow coaches" in farming, like the old stage coaches in competition with railways and locomotives, don't pay. Time is every thing in turning capital in tillage and husbandry. Instead of keeping a pig till he is two years old before you pocket the cash for the food he eats, turn his bread and butter into money every six months, at least. In this way you will turn your labor into gold four times over, with a good profit each time, where your father and grand-father did once, with a small profit. The same principle applies to the production of beef, and every branch of husbandry.

Enterprise in farming is the order of the day; and such as cling to the effete notions of the past, refuse to read agricultural papers, and oppose all progress, will be lost and petrified as thoroughly as Lot's wife. She was unwilling to look steadily ahead, and many cultivators imitate her bad example. Such a spirit of rebellion against advancement is certainly punished, sooner or later. Blind, headlong precipitancy, is equally to be avoided. "Look before you leap" is a wise saw, venerable for its antiquity. To look closely into rural affairs, implies a good deal of thought and patient research. Knowledge never comes without labor. The most profitable study is itself nothing but honest work.

CONDENSED CORRESPONDENCE.—Mr. ROSS, of London, Canada West, writes that he has been a keeper of bees for fifty years, and has had much trouble in preventing moths from injuring and destroying this valuable insect. He says that moths seek for the pollen of flowers collected by bees as suitable food for their young; and that he has trapped many of these depredators by "placing a box with its mouth open, and pieces of comb with pollen (bee-bread) in it. After sunset, as then is their time, I take a candle in my hand, and have killed a dozen at once every half hour in every trap I set. I have commenced making my boxes with double heads. The upper one lifts off at pleasure, to see if any moths are there; the under head is full of holes, one-fourth of an inch from the upper head, between which they have a quiet retreat from the bees, where they spin their web. Still, this is not sufficient. The only way to prevent their entering beehives is to see that there are no cracks or openings, and to close the entrance for the bees every night when they stop work. This is done by a fine wire cloth which admits the air when the entry is shut; then remove the wire gauze in the morning, and the cure will be perfect." We thank Mr. Ross for his instructive suggestions, derived from long and successful experience.

A friend in Washtenaw county, Michigan, writes us at some length on the subject of the decrease in the number of sheep in this and other States, and suggests that farmers petition Congress on the subject of the present duty on imported wool. He fears, and not without reason, that the impost of 30 per cent. *ad valorem* may be reduced to 20, perhaps 15, at the next session. At present the duty on wool is five per cent. higher than on broadcloths and coarse woolens, of which manufacturers complain as a bounty against their pursuit. The subject is of considerable importance, but has two sides to it, and, unfortunately, both are political. Farmers seldom act earnestly and effectively together to advance their own interests, as manufacturers and merchants do to promote theirs.

Our correspondent adds in a postscript that autumn sown wheat "looks slim, owing to the dry weather." His last crop averaged twenty-seven bushels per acre, which we regard as an evidence of good farming. Clover, seeded last spring, and oats were poor crops; hay and corn about a fair average.

HIGH PRICE OF WHEAT.—Rochester millers are now (November 11) paying $1.52 a bushel for wheat, and grinding thirty-seven thousand bushels a day at that. Our farmers are literally coining money, and we rejoice at their prosperity. Let every one subscribe promptly for the *Genesee Farmer*, and, our word for it, they will thank us at the close of the year for the vast fund of useful information which it has furnished them, at a mere nominal price.

Wheat-culture has been our special study for a quarter of a century, and we have facts in relation to this branch of tillage to communicate, never yet given to the public.

THE *Scientific American* says that Dr. JAMES K. DAVIS, who went out to Turkey seven or eight years ago, on invitation of the Sultan, to attempt the cultivation of cotton, failed in that enterprise, but brought back some Persian goats, which produce the cashmere wool, and from which he is raising up a flock of goats that promise to be a valuable addition to the stock of the country.

A GREAT WHEAT CROP.—The *Le Roy* (N. Y.) *Democrat* says that Hon. A. S. UPHAM, of that village, from a field of one hundred acres, has raised and gathered, in good order, three thousand six hundred bushels of wheat the present season.

MYSTERIES OF BEE-KEEPING EXPLAINED: being a complete Analysis of the whole subject. By M. QUINBY.

MR. QUINBY has evidently had large experience as a bee-keeper; and his work is at once comprehensive, plainly written, and full of original thought, prompted by personal observations of the industrious insect of which it treats. The more of such works published the better; and Mr. SAXTON is rendering the country an essential service, by making its agricultural literature more popular, instructive, and interesting. The letter-press, paper, and binding of his books, deserve commendation; and the one under consideration, which contains 376 duodecimo pages, will be sent by mail, free of postage, for a dollar.

LANDSCAPE GARDENING; OR, PARKS AND PLEASURE GROUNDS: with Practical Notes on Country Residences, Villas, Public Parks, and Gardens. By CHARLES H. SMITH, Landscape Gardener, Garden Architect, etc. With Notes and Additions, by LEWIS F. ALLEN, author of Rural Architecture, &c. Published by C. M. SAXTON, New York, Agricultural Book Publisher.

This is a reprint of an English manual on landscape gardening, written in a plain style, by an intelligent, practical man, who appears to understand his subject. It treats of planting fruit, forest, and ornamental trees, of kitchen gardens, and other matters of general interest, beside parks, villas, and landscape gardening. It is a book that ought to be read by every one who is so fortunate as to own a quarter of an acre of ground. Price, $1.25.

ELEMENTS OF AGRICULTURAL CHEMISTRY AND GEOLOGY. By JAMES F. W. JOHNSTON, M. A., F. R. SS. L. and E. With a complete Index and Preface, by SIMEON BROWN, editor of the New England Farmer.

No agricultural writer in England is better known in this country than Mr. JOHNSTON; and we are happy to see that some errors in his Lectures have been corrected in this later and more condensed work.

PRINCE'S MELODEONS.—Our readers have noticed the advertisement of GEO. W. PRINCE & Co., in previous numbers of the *Farmer*. Being well acquainted with these instruments, we can say that they are the best extant—the smaller ones just the thing for the parlor, and the large size unequaled as an instrument for small churches. Our friends would do well to note this fact.

Inquiries and Answers.

ORCHARD GRASS.—A subscriber wishes to learn if orchard grass has been much grown at the North; and we shall be thankful for any information on the subject. Our own experiments with it have not been successful. We have twice attempted to cultivate it in the District of Columbia. We have, however, often seen it growing. It is, we believe, more cultivated in Pennsylvania, Ohio, and Kentucky than in more northern States. Our correspondent resides in Wayne county, New York, and desires to learn the kind of land to which it is best adapted, the quantity of seed to be sown per acre, &c.

He suggests that we should publish the *Genesee Farmer* weekly, and devote a part of the paper to the great mechanical interest of the country. The idea of a weekly paper addressed to the producing classes generally, but more especially to farmers and mechanics, we have long regarded with favor. But some how the 250,000 mechanics and 500,000 farmers in the State of New York have always been disinclined to co-operate in any way to build up their common interests. They permit a few politicians to use them as the working men of political parties from generation to generation; and what fruits which are really valuable do these partizan labors bring forth? Weigh them in an even balance, and see how little they accomplish to elevate the honest industry of the country, whether agricultural or mechanical!

There is still great room for improvement in our farming implements, while there are many improvements already invented which are generally unknown. Inventors and manufacturers will do well to advertise their goods in agricultural papers.

VITALITY OF EGGS.—It is well known that eggs will keep a considerable time in milk of lime, or other means of entirely excluding atmosphere. We have an account of some dug out of an old wall of a sacristy, near Lago, Maygiore, quite sound, after having been encased 300 years. It becomes, then, a curious inquiry, how long the productive vitality of eggs can exist in this state of atmospheric exclusion—whether they retain it like toads, snakes, and cold-blooded animals, sometimes found in solids? Can any of your readers give or refer us to any instances respondent to the question?

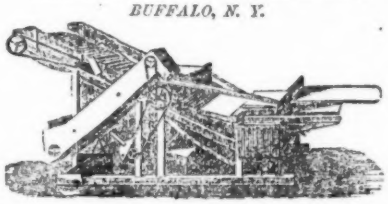
The vitality of all sound and duly impregnated eggs presents a wide field for economical and scientific investigation. Why should not the egg of a crocodile (they are about the size of a goose egg, but of equal bigness at both ends), excluded from the atmosphere and kept cool, preserve its vitality unimpaired for indefinite ages? May not the eggs of our domestic poultry, and of other birds, be kept for hatching months and years in a similar manner?

Since railroads enable farmers and others who raise poultry to send their produce fresh, and frequently, to market, this branch has assumed an importance never anticipated twenty years ago. The consumption of the flesh of fowls, and other domestic birds, is enormous; and it will increase as fast as the supply.

AGRICULTURAL IMPLEMENT MANUFACTORY,

CORNER OF CAROLINE & THIRD STREET,

BUFFALO, N. Y.



Pitts' Patent Separator—Improved Double Pinion Horse Power—Pitts' Corn & Cob Mills, &c.

I HEREBY give notice that since the extension of the patent right on my Machine for Threshing and Cleaning Grain, I have removed to Buffalo, N. Y., where I have permanently located, and erected a large establishment for the future manufacture of the above Machines.

The Separator has been enlarged, improved, and rendered more permanent and durable in all its parts, while the Horse Power for strength, ease, durability and cheapness of repair is not surpassed by any in the United States. This Power is warranted to stand the full strength of eight horses—also to give as much effective or useful power when driven by one or two horses as any other Horse Power, whether constructed on the endless chain or lever principle. It was put on trial at the great exhibition of Horse Powers and Threshing Machines at Geneva, July last, 1852, where it received the New York State Agricultural Society's First Premium "for the best Horse Power for general purposes." The Separator, at the same trial, also received the Society's First Premium.

My Machines will thresh and clean from three to five hundred bushels of wheat per day, and other grain in proportion.

Two hundred of the above Machines are for sale at the Agricultural Works of the subscriber in this city, all warranted to be a better article than can be purchased at any other shop, and if they do not prove on trial to be so, I will take them off the hands of the purchasers at the price they may pay me for them.

I further notify all persons who are purchasing Horse Powers and Separators to be used in California or Oregon, that I will hold them accountable for any infringments of the rights secured to me by letters patent in the above Machines, as I am manufacturing a Horse Power and Separator expressly designed for that section.

All orders for the above Machines hereafter addressed to JOHN A. PITTS, Buffalo, N. Y., will receive prompt attention. JOHN A. PITTS,

May, 1853—tf. Buffalo, N. Y.

HAVE YOU A DISEASED LIVER?

THE question, though startling, is sufficiently suggestive, when the fact is taken into consideration that diseases of the Liver have become most alarmingly frequent in the United States. Indeed, there are few formidable diseases that are not in some way traceable to a deranged state of that important organ. Many of the complaints usually classed under the head of Consumption, have their origin in the Liver. "Any remedy that would insure regularity and healthful action in the Liver, would be a blessing to mankind," has been the exclamation of thousands. That remedy has been found; it is safe and sure. When a fair trial has been afforded it, it has never been known to fail.

Reader, have you any disease of the Liver, or disease which you believe proceeds from heptic derangement? Lose not a moment, but purchase a box of Dr. M'Lane's Pills, and they will restore you to health. It is the only remedy yet discovered, in which implicit confidence may be placed.

☞ Purchasers will be careful to ask for Dr. *M'Lane's Celebrated Liver Pills*, and take none else. There are other Pills, purporting to be Liver Pills, now before the public. Dr. M'Lane's Liver Pills, also his Celebrated Vermifuge, can now be had at all respectable Drug Stores in the United States and Canada.

Improved Fowls for Sale.

HAVING kept for several years the very best fowls to be procured, and having the past season added to my stock some exceedingly beautiful specimens, I have now a great number of fine young pairs, certainly as good as can be found in the country, which I will sell at a much lower price than that charged by fowl-dealers. I will sell the following varieties at five dollars per pair:

White Shanghæ, Black Shanghæ, Buff Shanghæ, and *Cochin China*; and *Brahma Pootra*, and *Speckled Shanghæs* (a very beautiful bird), at ten dollars per pair.

These fowls will be ready for delivery by the first of September, and I will coop them carefully, with feed, water, &c., and send by railroad or express, as desired, without charge, and warrant every fowl sent to be pure and fine. Orders are solicited. WM. VICK.

Rochester, N. Y., August 1, 1853.

French Zinc Paint.

THIS new and beautiful article of Paint is now offered to the trade and public, ground in prepared linseed oil, for the first time in this country. It has been used successfully in France for the last five years, where it has superseded white Lead as a paint.

The French Zinc when properly prepared and used, makes the most brilliant and durable white in use, and is entirely free from all poisonous qualities.

The French Zinc is not more expensive than white lead, and is prepared in such a manner that it requires no farther preparation for use, than to thin it with Turpentine or raw Oil to the consistency of white lead paint.

The French Zinc is very much whiter, and has a better body, than the New Jersey Zinc.

The French Zinc is offered dry, and prepared as above, in quantities to suit purchasers, at the Manufacturer's Depot, No. 17 Buffalo st., Rochester, N. Y.

July, 1852, M. F. REYNOLDS.

PERUVIAN GUANO.

WE are receiving our supply of Peruvian Guano, per ships "Blanchard," "Senator," and "Gray Feather," from the Chincha Islands, and are now prepared to make contracts for the spring supply. As the demand is large, we would advise all who may be in want of this valuable manure to make early application. Price, $45 per ton of 2000 pounds. Be particular to observe that every bag is branded—

No. 1.
WARRANTED PERUVIAN
GUANO.
IMPORTED INTO THE UNITED STATES BY
F. BARREDA BROTHERS,
FOR THE PERUVIAN GOVERNMENT.

LONGETT & GRIFFING,
State Agricultural Warehouse, 25 Cliff st., New York.
November 1, 1853.—3t.

WHAT DO THE PHYSICIANS SAY?

LISTEN to the testimony of an eminent physician in favor of M'Lane's Vermifuge, which is now universally acknowledged to be the best in use; even members of the medical faculty (who are so often opposed to the use of patent medicines), can not withhold their approval of this invaluable remedy:

LISD, Stark Co., Ohio Jan. 8, 1849.

I have used Dr. M'Lane's Worm Specific in my private practice, and am prepared to say that the unparalleled success with which I have prescribed its use, both for children and adults, induces me to say the most in its favor of any specific or patent medicine ever before brought to my notice. The mode of administration, the smallness of the dose, and the certainty of its efficacious effects, give it, in my opinion, a decided advantage over any other medicine of the kind before the public.

☞ Purchasers will please be careful to ask for Dr. *M'Lane's Celebrated Vermifuge*, and take none else. All other Vermifuges, in comparison, are worthless. Dr. McLane's genuine Vermifuge, also his Celebrated Liver Pills, can now be had at all respectable Drug Stores in the United States and Canada.

Choice Poultry for Sale.

THE SUBSCRIBER offers for sale one hundred pairs of Brahma Pootras; also, Shanghæs, Cochin Chinas, and Bolton Grays; all warranted pure. THOS. WRIGHT.

Utica, N. Y., Oct. 1, 1853.—3t.

PREMIUMS FOR 1854.

THE Proprietor of the GENESEE FARMER, encouraged by the liberal support long extended to this journal by its friends and patrons, announces that the FIFTEENTH VOLUME of the present series, to commence in January, 1854, will contain a quarter more reading matter than any of its predecessors, and be otherwise much improved, without any increase in price.

To enlarge the usefulness by extending the circulation of the GENESEE FARMER, the undersigned will pay the following premiums on subscriptions to his next volume:

1. FIFTY DOLLARS, in CASH, to the person who shall procure the largest number of subscribers in any County or District in the United States or Canadas, at the club prices, before the 1st day of April next.
2. FORTY DOLLARS in CASH to the one who shall procure the second largest list as above.
3. THIRTY DOLLARS, in CASH, to the one procuring the third largest list.
4. TWENTY DOLLARS, in CASH, to the one procuring the fourth largest list.
5. TEN DOLLARS, in CASH, to the one procuring the fifth largest list.

In order to reward every one of the friends of the GENESEE FARMER for his exertions in its behalf, we will give to those not entitled to either of the above premiums, the following Books, free of postage, or Extra Papers, as may be preferred:

1. To every person who sends SIXTEEN subscribers, at the club terms of thirty-seven cents each, one extra copy of the Farmer.
2. To every person sending for TWENTY-FOUR copies, as above, any Agricultural Book valued at fifty cents, or two extra copies of the Farmer.
3. To every person ordering THIRTY-TWO copies, any Agricultural Book worth seventy-five cents, or three extra copies of the Farmer.
4. For FORTY, any Agricultural Book valued at $1, or four extra copies of the Farmer.
5. For FORTY-EIGHT, any Agricultural Book worth $1.25, or five extra copies.

For larger numbers, books or papers given in the same proportion. To save cost to our friends we pre-pay postage on all books sent as premiums. Persons entitled will please state whether they wish books or extra papers, and make their selection when they send orders, if they desire books; or if they have not obtained as many subscribers as they intend to, we will delay sending until the club is full, if so requested. We do not require that all the papers of a club should be sent to one Post Office. If necessary for the convenience of subscribers, we are willing to send to as many different Offices as there are members of the club. We write the names on each paper, when a number are sent to the same Office, if so desired; but when convenient, Post-Masters would confer a favor by having the whole number ordered at their own Office, sent to their own address.

As all subscriptions commence anew with the year, places where the FARMER was never before taken will stand an equal chance in the competition for premiums.

BACK VOLUMES of the Farmer will be furnished, if desired, and counted the same as new subscribers. We shall keep a correct account of the subscribers sent by each person, and in the May number we shall announce the premiums.

☞ Specimen numbers, show-bills, &c., sent to all post-paying applicants. All letters must be paid or free. Subscription money, if properly enclosed, may be mailed at our risk.

The volume for 1854 will be printed on good paper, with new type bought expressly for it. A gentleman, graduate of the University of Vienna, who is familiar with the languages of those nations in which the science of agriculture is most cultivated, will aid us in translating for the FARMER whatever can instruct or interest its readers. This gentleman is by profession a Civil Engineer and Architect—branches of knowledge intimately connected with the progress of rural arts and sciences. The general character of our paper is thus pithily stated by the Hon. MARSHALL P. WILDER, President of the Massachusetts Board of Agriculture, and of the United States Horticultural and Agricultural Societies, in a letter now on our table which closes as follows:

"I have always had the GENESEE FARMER. *It is, without favor or affectation, the best paper in the country.* MARSHALL P. WILDER."

As our club price to each subscriber is only thirty-seven cents a year, no matter how many other agricultural journals one may take, to patronise the FARMER can not impoverish him.

DANIEL LEE.

THE HORTICULTURIST,

And Journal of Rural Art and Rural Taste.

EDITED BY P. BARRY, AUTHOR OF THE "FRUIT GARDEN."

THE HORTICULTURIST, as its name implies, is devoted to Horticulture and its kindred arts, Rural Architecture and Landscape Gardening, and will keep its readers advised of every thing new on the subject, either in Europe or America. It is a Monthly Journal of forty-eight pages of reading matter, beautifully printed on the finest paper, and elegantly illustrated. In addition to numerous wood engravings, each number contains a full page engraving on stone, of some new, rare, and valuable fruit or flower, and is at least one of the most beautiful Journals in the country; and the publisher will not rest satisfied until the HORTICULTURIST, AND JOURNAL OF RURAL ART AND RURAL TASTE, is acknowledged to be the best Horticultural Journal in the world. The honor of AMERICAN HORTICULTURE requires this—interest and patriotism alike demand it. With proper support from the Horticulturists of the country, I have full confidence this point can be reached. To accomplish this desirable end, the publisher has determined to devote his whole time and attention to this work, and his connection with the *Genesee Farmer* as one of its editors (and in reality its publisher), which post he has filled since 1849, will therefore cease with the present volume.

Mr. BARRY, so long and so favorably known as the Horticultural editor of the *Genesee Farmer*, is the editor of this work; and those who wish to continue to receive the benefit of his valuable instructions in Fruit Growing, can do so by subscribing for the HORTICULTURIST, and in no other way.

The new volume will commence on the first of January. The January number will be ready to deliver to subscribers by the 10th or 12th of December.

We shall take pleasure in sending specimen numbers to all who desire to inspect them, or show them to their friends.

Many would do themselves and their neighbors good service by becoming agents, and obtaining subscribers among their friends and neighbors. No man who raises Fruit or Trees can afford to do without the Horticulturist. Agents will be allowed a commission of 25 per cent.

TERMS—$2 per year, in advance.

JAMES VICK, JR., Publisher, Rochester, N. Y.

☞ We subjoin a few notices by the press, showing the estimation in which the work is held by our editorial brethren:

We are glad the work has fallen into such excellent hands.—*Louisville Journal.*

Its contents are spirited and various, the selections judicious, the illustrations elaborate.—*New York Daily Times.*

A standard work of authority upon all subjects discussed or explained in it.—*Vicksburg Whig.*

There is no work in this country of greater value to the cultivator of fruits.—*Inquirer, Portland, Me.*

We congratulate the public on having so valuable a periodical as the Horticulturist within their reach.—*New York Day Book.*

This periodical is got up in excellent style, and well sustains its former reputation under its present management. *Middlebury (Vt.) Register.*

We feel that we are doing our readers a real service when we urge them to subscribe for this invaluable monthly.—*Weekly Democratic Press, Chicago.*

It is well got up; its articles able, various, and appropriate.—*Geneva Courier.*

The plates alone are worth the year's subscription. The letter press is of a highly instructive character, and embraces a variety of topics. None who have a taste for the beautiful in nature should be without such a valuable publication.—*Hamilton (C. W.) Spectator.*

There is substantial profit as well as pleasure in cultivating taste in buildings, yards, gardens, &c., and the subscription price would be capital well invested by those who will attend to the contents of the Horticulturist.—*Daily Courier, Zanesville, Ohio.*

We are quite satisfied with the work, and are inclined to believe that, to the mass of readers, the work will be even more acceptible than it was under the charge of the accomplished Downing. We recommend the work cordially to the patronage of our friends and the public.—*Massachusetts Spy.*

PROSPECTUS FOR 1854.

THE SATURDAY EVENING POST.

UNRIVALED ARRAY OF TALENT.

THE proprietors of the POST, in again coming before the public, would return thanks for the generous patronage which has placed them far in advance of every other Literary Weekly in America. And, as the only suitable return for such free and hearty support, their arrangements for 1854 have been made with a degree of liberality probably unequaled in the history of American newspaper literature. They have engaged as contributors for the ensuing year the following brilliant array of talent and genius:

MRS. SOUTHWORTH, EMERSON BENNETT, MRS. DENISON, GRACE GREENWOOD, AND FANNY FERN.

In the first paper of January next, we design commencing an Original Novelet, written expressly for our columns, entitled

THE BRIDE OF THE WILDERNESS,

By EMERSON BENNETT, author of "Viola," "Clara Moreland," "The Forged Will," etc.

This Novelet, by the author of "Clara Moreland," we design following by another, called

THE STEP-MOTHER,

By Mrs. MARY A. DENISON, author of "Home Pictures," "Gertrude Russell," etc.

We have also the promise of a number of

SKETCHES BY GRACE GREENWOOD,

whose brilliant and versatile pen will be almost exclusively employed upon the POST and her own "Little Pilgrim."

Mrs. SOUTHWORTH—whose fascinating works are now being rapidly republished in England—also will maintain her old and pleasant connection with the POST. The next story from her gifted pen will be entitled

MIRIAM, THE AVENGER; OR, THE FATAL VOW,

By EMMA D. E. N. SOUTHWORTH, author of "The Curse of Clifton," "The Lost Heiress," "The Deserted Wife," etc.

And last—not least—we are authorized to announce a new series of articles from one who has rapidly risen very high in popular favor. They will be entitled a

NEW SERIES OF SKETCHES, BY FANNY FERN,

Author of "Fern Leaves," etc.

We expect to be able to commence the Sketches by FANNY FERN—as well as the series by GRACE GREENWOOD—in the early numbers of the coming year.

Engravings, Foreign Correspondence, Agricultural Articles, The News, Congressional Reports, The Markets, etc., also shall be regularly given.

☞ CHEAP POSTAGE.—The postage on the POST to any part of the United States, when paid quarterly in advance, is only 26 cents a year.

TERMS.—The terms of the POST are Two Dollars a year, payable in advance.

4 copies, $5 per annum.

8 copies (and one to the getter up of the Club), $10 per annum.

13 copies (and one to the getter up of the Club), $15 per annum.

20 copies (and one to the getter up of the Club), $20 per annum.

The money for Clubs always must be sent in advance. Subscriptions may be sent at our risk. When the sum is large, a draft should be procured, if possible—the cost of which may be deducted from the amount. Address, *always post-paid*,

DEACON & PETERSON,
No. 66 South Third Street, Philadelphia.

☞ N. B.—Any person desirous of receiving a copy of the POST, as a sample, can be accommodated by notifying the publishers by letter (*post-paid*).

☞ TO EDITORS.—Editors who give the above one insertion, or condense the material portions of it (the notices of new contributions and our terms), for their *editorial* columns, shall be *entitled* to an exchange, by sending us a marked copy of the paper containing the advertisement or notice.

December 1, 1853.—1t.

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New York Agricultural Warehouse.

HORSE POWERS. Threshers, Fan Mills, Smut Machines, Grain Drills, Hay Presses, Grain Mills, Corn and Cob Crushers, Cider Mills, and a large assortment of Plows, and all kinds of Agricultural and Horticultural Implements.

Peruvian Guano, Superphosphate of Lime, Bone Dust, and other fertilizers, of the most superior kinds.

R. L. ALLEN,
Sept. 1, 1853. 189 and 191 Water street, New York.

The Practical and Scientific Farmer's own Paper.

THE GENESEE FARMER,

A MONTHLY JOURNAL OF

AGRICULTURE AND HORTICULTURE,

ILLUSTRATED WITH NUMEROUS ENGRAVINGS OF

Farm Buildings, Domestic Animals, Implements, &c.

VOLUME XIV, FOR 1853.

DANIEL LEE, JAMES VICK, JR., & JOSEPH HARRIS, EDITORS.

P. BARRY, Conductor of Horticultural Department.

Fifty Cents a Year, in Advance.

Five Copies for $2—Eight Copies for $3, and any larger number at the same rate.

☞ All subscriptions to commence with the year, and the entire volume supplied to all subscribers.

☞ POST-MASTERS, FARMERS, and all friends of improvement, are respectfully solicited to obtain and forward subscriptions.

Subscription money, if properly enclosed, may be sent (post-paid or free) at the risk of the Publisher. Address to

DANIEL LEE,
November, 1852. *Rochester, N. Y.*

POSTAGE LAW.—By the new Postage Law, which took effect on the 1st of September last, the postage on the *Genesee Farmer* for one year is as follows,—when paid quarterly in advance:

Any wherein the State of New York,..3 cts.
Anywhere in the United States,.....6 cts.

STEREOTYPED BY J. W. BROWN, ROCHESTER, N. Y.